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THE CULTIVATOR.

THIRD] TO IMPROVE THE SOIL AND THE MIND. [SERIES.

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The Cultivator & Country Gentleman.

MUCK OR PEAT AS MANURE.

In many sections of the country there are large deposits of peat or muck that might be turned to a most valuable account as a fertilizer; but it appears that where these deposits are made, many of the farmers have not learned its value. It is hardly to be expected that where farmers do not duly appreciate and husband their yard and stable manure, they will give time to digging manure from muck beds, yet the time will come when necessity will compel the use of every available material for restoring the lost fertility of the overworked and the unfed soil. Large sums of money are now paid by the farmers in the older portions of the country for guano, bones and other fertilizers that might in a great measure have been saved had those who previously cultivated the soil applied with economy all the enriching materials that were naturally produced on their farms. But it requires time to correct errors and remove old established prejudices. In a new country, like many portions of the United States, farmers are not easily made to believe that their lands will ever become poor, or that manure will ever be worth the labor of hauling and applying to their crops. This however, is not the case in many parts of the older States; the lands are so much reduced by cropping without manure that the present returns will hardly pay the labor of cultivation. In many of these localities peat beds abound.

These deposits of vegetable matter differ very materially in their character, according to location and the nature of their formation. Some are almost purely vegetable deposit, in what were once ponds, some of them of very considerable depth, sometimes exceeding 20 feet, the accumulation of untold ages. These deposits are composed chiefly of decayed leaves, roots and branches of shrubs and grasses grown in and around the particular locality. As these ponds become partly filled, swamp bushes occupied their edges, and finally covered their entire surfaces, the deposit of leaves continuing for ages longer, until they rise a foot or two above the surface of the water. After these swamps have been cleared, and a few inches of the surface of the peat have been removed, the deposit is found in regular strata, and when thrown out and partly dried it may be opened or divided, each strata exhibiting the form and framework of the leaves as perfect as when they fell from the trees, though they may be thousands of years old. When these leaves are dried they are readily reduced to fine powder. These deposits are of a red brown or snuff color. This kind of peat is highly carbonaceous in its character, and when dried and burned in a furnace or stove produces a heat of great intensity. In some parts of the country it is used for fuel in certain large manufacturing establishments. Patents have recently been issued for pressing out the water and forming the material into convenient blocks for fuel.

Peat of this character I have used for manure for many years, keeping a constant supply in the pig-pen, stables and yards, and thereby increasing the annual stock several times in quantity and value. With ordinary care two loads of muck added to the yards to one of stable manure, is fully equivalent in value to three loads of stable manure. With stables properly constructed so that a supply of peat can be employed to absorb all the liquid portions that fall from the animals, which otherwise generally goes to waste, that portion may be made of more value than the entire accumulation of solid manure from the same animals.

Peat of this description being deposited generally in basins without any outlet for the water, requires to be dug in the dry part of the summer, for at other seasons of the year water greatly interferes with the operation. After it has been thrown out, and has parted with the greater portion of the water it contained, it should be protected from the weather. It should be thrown up on boards to prevent contact from the moist earth, as it absorbs moisture as readily as a sponge.

In many parts of the country where these deposits of organic materials are found, the soil of the surrounding country is chiefly sandy or gravelly, and liable to suffer from drouth in midsummer. These soils are easily worked, and in wet seasons, with a good supply of manure, yield fair crops, and often heavy crops. Soils of this character are wonderfully benefitted by the application of a good supply of well prepared muck

Its power to absorb and retain moisture in the soil exceeds that of any other material that can be applied. It not only retains moisture, but also the enriching substances naturally within itself, and that which has become incorporated with it in the stable and yards, and gives it off as the crops require it, when ordinary manures leach through these porous soils, and their virtue is soon lost. It otherwise tends to meliorate the texture and improve the physical character of the soil. It may be regarded as one of the wise provisions of nature that these large deposits of enriching material are found near such soils as are most benefitted by their application.

There is another kind of muck which is found in large quantities in various parts of the country, generally along rivers and small streams emptying into rivers or bays, which differs very materially from that which I have described. It contains none of the deposit of forest leaves, but is entirely of a boggy character, chiefly the product of different species of coarse wild grasses. These bogs are usually a foot or two above the water. The surface is composed of the roots of living grasses ; below this is often several feet of the same material in a dead or decaying state, though being excluded from the air, it retains its tough fibrous character for a long time. With this there is sometimes a small admixture of mud deposited by freshets and high tides. Its tough and fibrous character requires time to decompose and reduce it to a fit condition for application to the soil. Of its value as a manure, compared with the peat above described, requires chemical analysis to determine, and different deposits of both, differ in character, according to the mineral and other foreign substances incorporated with it from the surrounding country. But judging from the effects of some that I have seen applied to crops, it can hardly be inferior to it. On a tract of land not exceeding 60 acres, devoted to a profitable nursery business, the operations of which I am familiar with, from 1,000 to 1,500 cart loads of this bog material are annually prepared and applied, without which the establishment could hardly be sustained. There are several hundred acres of this bog earth lying in a solid body adjacent to the upland. It is subject to the action of the tides, and lies about level with the water at full tide, though being so far from the sea as to be but little effected with the salt water, the grass being of those kinds common on fresh bogs. Owing to the tides, it can only be cut when frozen, and at low water. About four feet in depth is usually secured before being obstructed by water. The bottom spit differs from that of the top only from being partly decomposed. A portion of this is hauled every year into the stable yard and incorporated with the coarse grass cut from the same meadow. Added to this is the manure of twenty or more head of cattle that are wintered in the yard. Other portions are shovelled over from the pile once or twice before it is used, which aids its decomposition and disintegration. This is added to the soil after undergoing a preparation of from one to three years, according to the manner of treatment and the crops to which it is to be applied. I am thus particular in describing the character of this muck and the manner of preparing it, hoping that others may be induced to use it where it can be readily obtained.

The most economical method of converting either of the kinds referred to into valuable manure, is to haul it out, either in the summer or winter, as circumstances may require, and add it to the yards and stables, in as large quantities as may be convenient. It is a matter of the first importance that the stables be so arranged that all the liquid portions of the manure may be absorbed by it. The best land will not continue perpetually to yield paying crops unless it is fed, and no material is so cheap, where it can be obtained conveniently, as peat or muck. H. P. B.

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Changing the Hardiness of Varieties.

Varieties which are propagated by cuttings, grafts or buds, or in any way in which the individual plant is merely extended or multiplied, can never be changed in their hardiness by any mode of cultivation. Frequent errors are committed by cultivators by not understanding this principle. Many years ago when the Morus multicaulis mania was at its height, and after it had been discovered that the Chinese mulberry would not endure severe winter, a certain puffing cultivator advertised hardier plants which he had raised by a certain repeated process of propagation. More recently, an extensive grape culturist claimed that he had considerably hardened the Isabella, and rendered it earlier by a similar process, and he therefore agreed to furnish a better and improved Isabella, which he offered extensively in market. We observe a similar mistake committed by cultivators at the present time in supposing that the Delaware and other varieties are rendered hardier or more tender by the mode of propagation—and assertions are frequent that plants propagated in houses are not so good as those raised out of doors.

It is freely admitted that a plant is rendered hardier or more tender *for the season*, by the different influences in cultivation to which it may be subjected. For example, an early and healthy growth, causing it to ripen its wood in good season, will better endure the succeeding winter than a late and succulent growth with half-ripened shoots. Hence the practice of highly manuring vineyards, especially of the larger growing varieties, has been found to render them more liable to injury. The same rule will apply to house-culture. If the growth of vines in pots under glass commences early in the season, so that the wood may become perfectly formed and ripened before its close, such vines will endure the severest exposure better than those growing in open ground which have started so late as not to ripen their wood. It must be borne in mind that it is the heat of summer that renders a plant hardy, and not the cool weather of autumn —for the former produces perfect maturity, while the latter prevents it. For the same reason the longer continued warmth of a propagating house, may produce greater firmness of growth than a short and cold summer out of doors.

It will be observed that the difference in hardiness just mentioned, does not at all affect the character of the variety—it is merely the temporary condition of the growth at the time—in the same way that the shoots of any tree are in a different condition as to maturity on the first day of summer and the first day of autumn ; not the slightest permanent influence is produced. We might as well expect water to be made to freeze over by placing it in a green-house, as to render a plant essentially tender by the same process.

It is only by propagation *from seed*, producing new varieties, that increased hardiness is secured. Hence some varieties are thus obtained that always endure the winter better than others, and this difference is permanent, and cannot be changed by any mode of propagation. All cultivators—farmers as well as horticulturists—should bear in mind this great distinction; and remember that while such crops as are constantly raised from seed, as wheat, corn, &c., may be continually changed in character, and, consequently, as like always tends to produce like, the best seed should be perpetually chosen. But, on the other hand, varieties such as the potato, where there is no re-production from seed, but merely a repeated extension of the same plant, no change whatever can take place. A potato not more than half an inch in diameter will be found to yield as large tubers as one weighing a pound—provided sufficient moisture and as favorable influences are given to the small tuber as the large one. In ordinary practice these favorable influences do not usually exist, and this is perhaps the only reason why large potatoes produce more than small ones.

The same principles will apply in grape propagation. A small cutting will produce as good a plant as a large one, provided all the favorable influences ot fine growth exist, and sufficient time is allowed for the shoots to attain full size, and to ripen their wood.

Before concluding, it may not be amiss to remark that even the propagation of new varieties by seed, although effecting change to some extent, cannot greatly vary the hardiness of the species. Indian corn and potatoes, for example, notwithstanding the many varieties in size, earliness, &c., which have been produced, are always cut down by the first frost—and no amount of selection and re-production can render them as hardy as wheat or June grass.

Remarks on Breeding Dairy Stock---II.

Messrs. Editors—One of the most common causes of failure to improve farm stock, is the fear of doing harm by breeding in too close relation. To avoid this, farmers cross and re-cross with all the alloy and base elements to be found in their neighborhood. Pure and valuable blood can never be called into existence in this manner. The husbandmen of our extended Republic should know when to propagate their domestic animals by in-and-in pairing, and when to abstain from this practice without citing authorities. I will give the result of my own observations and researches in the matter.

All animals are liable to be attacked by many diseases; and high feeding and breeding do not lessen this natural infirmity, but often increase it. No matter how local a disease may be at its commencement, morbid atoms may pass through vessels and the pores in the walls of cells, and thus spread the malady till the whole system is brought under its influence. After this, if not removed, it may result in what is called a "constitutional disorder." Parental cells coming from a diseased system, and forming the starting point of a new being, retain the taint of either father or mother in their joint offspring. Now, it is more than probable, where cows and bulls are raised on the same farm, drink the same water, breathe the same malaria if there is any, and eat the same food summer and winter, having the same shelter or doing without, they will have constitutions and complaints not very unlike. Suppose the lungs of both sexes are weak, sensitive and liable to inflammation from slight changes of temperature and humidity, this defect will be increased by breeding them together, no matter whether they are near of kin or not. It is usually only after a herd has been bred long enough to become closely related that evils of this kind show themselves alarmingly, and therefore it is that in-and-in propagation is condemned. The injury, however, lies not in the fact that the male and female parents are of the closest possible blood relation, but comes from morbid atoms in the cells that form the fœtus. Sound and pure constitutions and blood in both parents, no matter how closely related, do not, and cannot beget unsoundness as their natural fruit. Nature is always true to her highest interests; and she does not prevent in any way or degree, the pairing of wild animals in the closest possible consanguinity. Hence, nothing but known disease will justify a man who wishes to avoid the deterioration of his milking stock in ever using a bull that comes from a family of cows inferior to his own. Bulls of this inferior character have often been preferred for the sake of change, and this made the change for the worse.

I know not what may be the precise views of Mr. L. F. Allen (author of the American Herd Book,) on this point; but his remarks at the meeting in Rochester, led me to believe that he regards in-and-in breeding as essential to the improvement of dairy stock. As the first pair in each species were nature's starting point for the indefinite multiplication of the same, man can take any sound pair, and from them develop a new branch or breed better adapted to his wants and purposes. Disease from external forces is the only enemy he has to contend against, when all is sound within. Some knowledge of comparative anatomy, and of the proper office performed by each organ in the system, is indispensable to the skillful improvement of domestic animals as their life and blood pass down from generation to generation under human care and guidance. As quacks generally know just enough of the healing art to violate the laws of nature and do harm, so stock-growers in the plenitude of their vanity and ignorance of the laws of physiology, labor assiduously to produce mongrels that nature abhors, and in the belief that they are "crossing" their stock with peculiar wisdom and success.

Nothing is easier than to say, "one should always breed from the best." But how is one to know—not guess—what animals really possess the best blood to give embryo cells for the purpose contemplated by the farmer? He can hardly take one step with safety until he removes the darkness that blinds him, and passes down the gentle current of parental blood through many generations, and sees clearly how this life-giving and life-extending fluid is changed, now for the worse and now for the better. It is a voyage between Scylla and Charybdis, in which safety and honor are achieved by carefully avoiding all extremes, and conquering great Nature herself by obeying her divine laws. Let us start right and learn well our first lesson. In all things God requires obedience; and *the fear of him* "is the beginning of wisdom."

Vitality is most susceptible of lasting impressions, is most elastic and vigorous, while it exists in young and growing animals. Hence, the best time to expand the milk-giving function in female kine is during their growth, from the time a calf is born till it becomes itself the mother of its first calf. The part that secretes milk is better called lacteal gland than a cow's bag; because bag implies only a sack in which something may be carried; whereas, lacteal gland implies a vital organ that secretes milk. An organ that separates two pounds of rich milk from circulating blood in one hour, and does so for hundreds and thousands of hours in succession, possesses many points of great economic and scientific interest. There are many other glands in the system besides this, but none that will compare with it in expansibility. One healthy cow in milk raised in the south, gives all of two quarts in 24 hours; another raised at the north, gives 24 quarts in the same length of time. To appreciate this remarkable difference, let us suppose that the liver of one cow should secrete and throw into the bowels twelve times more bile than came from the hepatic gland of another; disease and death would soon ensue. Suppose that while the kidneys of one cow in perfect health separate one quart of water from her blood, those of another should take twelve quarts. Here again death would be the consequence. The lacteal gland has a wide range, and many curious resources not generally known. Whoever has access to Carpenter's Physiology may find in it a reliable account of a colored *man* in Baltimore who gave milk, and nursed a child several months.

To the development of this parental gland, and of the blood vessels that belong to its functions in heifers, I must devote another letter. D. LEE.

LETTER FROM CALIFORNIA.

Loss of Stock from the Drouth—The Great California Cheese.

SAN FRANCISCO, CAL., Oct. 18, 1864.

EDS. CO. GENT.—I have been so situated the past summer, that I have not been able to write you. I returned to this city a few weeks ago, from a long trip in the mountains south of this parallel. Everywhere, except in the high Sierras, are the evidences of the great drouth, unparalleled in the history of the State. Your readers are aware that in this climate no rain falls during the long summer. The ground is saturated in winter. An abundant herbage of native plants grows up on the plains and lower hills during the spring, which dries on the ground in early summer. This furnishes the forage for the enormous herds of cattle and sheep, for which the State has been so justly celebrated.

Last winter less than half the usual amount of rain fell, and over the whole southern half of the State scarcely any, not enough to wet the parched earth thoroughly. As a consequence, the spring feed was very meagre—in places none at all. To make matters worse, the whole southern half of the State was overstocked; probably twice as many cattle were grown there as the demands of the State justified. The forage would have been insufficient even had we received the usual amount of rain. As a consequence, cattle have perished in vast numbers, all the larger ranches losing thousands; some of them even over ten thousand. This has proved a serious calamity, indeed, to many.

I accidentally picked up to-day a copy of the COUNTRY GENTLEMAN of Sept. 5, 1861, containing an account of a California Ranch, or ranches, belonging to one man, "which comprises 230,815 acres, upon which he has 18,000 head of cattle, and 3,000 head of horses." The sequel to this paragraph can now be written, and is sad. In the beginning of 1863, his cattle numbered 30,000. To-day he is a poor man! His failure is attributed to the losses he has sustained from the drouth.

During the spring and early summer of 1862, I passed leisurely up the great San Joaquin valley. Herds of tens of thousands of cattle dotted the plains as far as the eye could reach, and the luxuriant pasturage looked like a sea of green, stretching away to the distant horizon.

This summer I again rode over the same plain; it seemed like riding over a desert—scarcely a green thing to relieve the eye. Here and there a poor animal trying to pick up a miserable subsistence, and thousands of dead cattle polluting the air with their stench.

In the high Sierras there is much good feed, and many cattle have been driven there to escape starvation.

Yet this great calamity that has fallen so heavily upon individuals, has not been so great a calamity to the State. The State was over-stocked with cattle and horses, and all the largest herds were inferior "Spanish" stock. There are still enough left for the wants of the State, and it is probable that a better breed will be introduced to take the place of the wasted herds, and the marvelous fertility of the more favored regions have enabled the farmers to produce enough grain for home consumption. One good year again and the drouth would be almost forgotten.

As I returned to this city the Fair of the Mechanics' Institute was in full blast, but it contained but little of agricultural interest, very few agricultural implements being made on this coast, and this part of the exhibition was very meagre. Some fruit, contributed and sold for the benefit of the Sanitary Commission, would be noticed anywhere out of California, but attracted but little attention here. The samples were especially noticeable from the enormous size of the fruit.

The great "*Sanitary Cheese*" attracted much attention. It was made by two patriotic rancheros, Messrs. Steele Bro. of the Pescadero ranch, Santa Cruz Co., and presented to the Sanitary Commission. It was placed on exhibition at the Fair, and has since gone East, I believe. It was enormous, weighing almost *two tons*, or to be more exact, 3,930 pounds, yet well made and in perfect form. They have on their two ranches 1,400 cows, from which they selected 600 of the choicest, and assigned the work to thirty men, experienced in the business. The 600 cows selected, yielded about 120 barrels of milk in three and a half days, from which the immense curd was prepared. The cheese is nearly six feet across, and it is not easy to see how they manipulated so large a mass with such success; but successful they were, and thousands of soldiers will bless their patriotism and generosity, as well as their skill. When Eastern dairies beat this, Messrs. Steele will try again, for California is not to be beaten. WM. H. BREWER.

GLASNEVIN FARM SCHOOL.

With the present interest in Agricultural Education and the in establishment of schools or "colleges" for the purpose, any information bearing upon it will be of service. The "Glasnevin Training School," near Dublin, is one of the most successful of its kind, and nowhere perhaps exceeded in the practical character of its design and management. We are reminded of it, and of our own visit there some years ago, by a full account of its present operations, lately contributed to the North British Agriculturist from the pen of an able correspondent. From this article, which is of too great length for our pages as it stands, we propose to derive several hints, deserving, as we think, of careful consideration here.

1. *The Size of the Farm*, although only about 175 acres, is large enough to include Dairying, the Feeding of cattle, sheep and pigs, and the production of considerable quantities of Grain and Potatoes for sale; also for an extensive and well systematized Botanical garden, and for another, including vinery and greenhouse, fruit trees, vegetables and flowers. Now, notwithstanding all experienced men are agreed that American farmers generally suffer from the attempt to cultivate *too large a surface* in proportion to the capital and labor expended, this is the very first mistake which our Agricultural Schools have generally made,—so that, in a primary and really a vital matter, they place a bad example before the agricultural public. What is true of a private farmer is equally true of such institutions, and in view of their influence with others, in a far more important sense,—namely, that a hundred acres, well conducted, can not only be carried on much more satisfactorily, but also much more profitably, than three, four or five hundred, marred by all the faults common to the too diffused and badly concentrated farm management of the country. In size, therefore, Glasnevin affords us one hint.

2. *The Farming*, in the language of the article before us, both in-doors and out, is a model of tidiness, very superior in that respect, in the absence of weeds, and in the yield of the crops harvesting at the time of the visit, to anything else seen in the journey through Ireland. This is a standard, which, if possible, should be sustained on such a farm here. An examination of the books revealed the cost and income for two years past, (on the farm proper, of 164 acres,) and we copy, for the sake of illustration, the balance sheet of 1862:

Glasnevin Farm, Dr.		*Glasnevin Farm*, Cr.	
Valuation of effects March 31, 1862,	£2,804	Dairy Produce sold,	£518
Stock bought,	122	Cattle,	413
Feeding Stuffs,	188	Sheep,	42
Wages,	107	Pigs,	150
Seeds and Manures,	112	Grain,	284
Implements & repairs,	86	Potatoes,	208
Coal for steam engine,	23	Italian ray-grass seed,	11
Oils, paints, medicines, &c.,	55	Cabbages,	5
Tiles for drainage,	8	Miscellaneous,	13
Miscellaneous,	53	Valuation of stock at 31st March, 1863,	2,672
Rent, 164 acres,	649		
Balance,	109		
	£4,316		£4,316

This shows a balance of profit of £109, *after paying a rent* of £4 per acre, and though 1863 and other years may not have been equally successful, still we understand that on the average the farm is made to pay its rent—which rent-charge, say of $20 per acre, or a total of nearly $3,250, would in this country represent, less interest on value of land, so much clear profit. One object, however, in quoting the foregoing figures, was to show the amount of capital invested in carrying on the farm, represented by the valuation at beginning and close of year. This, at $5 to the pound sterling, was from $13,000 to $14,000 on the 164 acres,—or $80 to $85 per acre—which, although in excess of such requirements here, reminds us to say that, in the in the apportionment of their funds, Trustees are too likely to overlook the amount which *is* necessary for the proper stocking and working of the farm, and consequently to find themselves always afterward hampered and restricted in what they undertake. We may also call attention to the sources of income above specified, as indicating something of the range of the farming.

3. *Instruction.*—There are accommodations for about 90 pupils, but the government pays their board, and has been so economical of late as to restrict the number taken to 60. The course is two years in length—admissions either in January or July.

"The instruction in the class-room is literary as well as agricultural. The literary classes are for spelling, grammar, composition, book-keeping, writing, mapping, &c. The agricultural classes comprise husbandry, chemistry, botany, geology, surveying and mensuration. These classes are taught by professional men who are selected by the commissioners.

"The out-of-door instruction is partly in the garden and partly on the farm. In the gardens the pupils are made to dig, to sow at the proper seasons, to graft trees, and rear vegetables and flowers, under the directions of an experienced practical gardener. On the farm they not only receive from Mr. Boyle explanations of the several operations, but they are made to take part, and put their hand to everything going on."

Thus, at the time of this visit, nearly one-half the pupils were in the harvest field, and among the occupations of the rest, we note feeding and attending to stock, garden work, turning manure heaps, and so on, while two were exhibiting stock at the Show at Sligo. Dr. Kirkpatrick is the General Superintendent and Inspector, and Mr. Boyle, himself a former pupil, manages the farm and gives practical instruction on it to the pupils. The expense of maintaining the Institution is not reported, but an estimate places the board of the 60 pupils at £1,200 a year, and salaries of teachers and others at not less than £1,000 more. If these estimates are correct, the cost to the government is only from £35 to £40 a year for each student—say $200, which is not large, and which may perhaps be taken as indicating that an institution here, so endowed as to give every needed facility in the way of working capital in-doors and out, for doing everything in the best manner, and paying its professors and instructors from the income of its funds, ought to receive and educate its pupils at about the cost of actually boarding them; and this, when accomplished, should be considered sufficiently moderate to attract the necessary number of students. And, as the endowment becomes more ample, of course even this charge could be reduced, if desirable.

The management at Glasnevin is certainly most creditable to the Superintendent and to Mr. Boyle. The course of study is not so high as would probably be required here, and as this is extended, the number of years occupied would necessarily have to be increased. But it is easy to see that the foregoing outline, if followed in so far as applicable to the circumstances among ourselves, would include—1st, a farm that should be really a "model" to the community, and the influence of which would be felt far beyond the county or State in which it was located, and—2d, a course of instruction which must at least tend very greatly, after a series of years, to elevate the standard of our agriculture, and to promote the intelligence of those who follow it as a pursuit.

How Every Man may Raise his own Peaches.

Messrs. Editors—Many of your readers, though perhaps not all of them, have realized the difference in flavor between a fully ripened peach taken from the tree, and the same insipid fruit that we find in our market, obtained from orchards located from one to four hundred miles distant. In the latter case, in order to have this fruit in a condition to bear transportation, and to last until it can be sold without decaying, it has to be picked in a green state. The consequence is that when there is a good crop in Western New York or New Jersey, our markets overflow with peaches, but scarcely one is to be found fit for eating out of hand, or for cutting up into cream for the table. Such peaches have often an attractive appearance when seen piled up on fruit stands or exposed in baskets, but they are not worth much except for preserving.

Having discovered a method by which every man may raise his own peaches, and have them in abundance and perfection, it affords me pleasure to communicate it to the public for the general benefit, and espially for the information of all lovers of good fruit.

To raise my own peaches I proceed as follows: I commence by digging the earth away from one side of the tree, at the distance of about 12 or 15 inches, deep enough to sever all the roots that interfere with my object. Running the spade also under the tree, so as to cut all the roots that descend vertically, the tree is in a condition to be bent over on one side and laid flat on the ground. Several of the stronger lateral roots on that side are not cut at all, but only curved upward somewhat as the tree reaches the ground. This does not injure them. The branches of the tree being brought as close to the earth as possible, they are still farther flattened down by laying an old post or some similar weight upon them, care being used not to break the limbs. The object is to get the top of the tree pretty close to the surface. A mound of earth is then raised over the upturned roots, so as to prevent their freezing in the open air, and the fruit-bearing wood is covered lightly with some kind of litter, enough to conceal them mostly, but not so heavily as to furnish a harbor for mice. I use my old tomato or cucumber vines, potato tops, asparagus stalks, or any thing of that kind. My trees are now ready to be covered with snow as soon as winter sets in, which I keep piled over the whole top of the tree from six inches to a foot in depth. This is all that is required. The whole process may be described under the title of *burying your trees in the snow*. Keep the snow on all winter until it goes off in the spring, and your fruit buds will come out as fresh and lively as they were when laid down at first.

In the fore part of April, or after the buds begin to show signs of starting, set your trees up again by clearing out the space on which they stand so that the shortened roots will go back naturally to their proper positions, and can be secured there by pressing the earth in around them, or throwing up an extra quantity around the base of the trunk. Trees thus treated will exhibit no signs of injury, but will grow as vigorously during the summer as though their roots had not been disturbed, I think, however, the operation is a somewhat dwarfing one, but the health of the tree is not in the least effected.

To grow peaches in this way, I shall depend mostly upon young and small trees. When they get to be old and stiff it may be better to throw them out altogether and replant. As far as is practicable, the tree should be forced into a fan-shaped form. This brings the branches closer to the ground for covering. My old trees now are ten feet high, and measure ten or twelve through the branches at the widest. Instead of having a spindling growth from the ends of the limbs, they grow quite bushy, and have new wood within three or four feet of the surface. Trees set in the spring of 1863, have many hundreds of blossom buds on them, and may bear a peck of fruit. Trees set last spring have many blossom buds, and will produce as much fruit as it will be safe to allow the trees to to bear. I think it pays to get a dozen fine peaches from a single tree two years old from the bud.

I have tested this method two years in succession successfully, with complete success this last season. The trees experimented upon were five in number, all of the fine sorts, and have been growing in my garden ten or twelve years. They were annually headed down with the hope that some mild winter would transpire which would reward me with a crop of fruit for my pains; but they never produced a single peach, though setting largely with fruit-buds in the fall. I tried several other experiments, which all failed, until in the fall of 1862 I bethought myself of this plan. My five trees were laid down, and one of them only littered as above prescribed, the rest merely covered with snow, after snow fell, which was not until after the 1st of February, and there never lay over 4 inches in depth on the ground. That was in 1863. The mercury only fell to about zero until after the snow came in February, when it once or twice went down to 8 or 10° below, and all the peach buds on standing trees were klled. The tree which had the straw protection besides the snow, produced a fine crop; one of the others had two peaches on it; the other three failed. Whether this was owing to the want of straw or the lack of snow previous to the month of February, I could not determine; but last fall I treated all my trees to a litter. The snow in this section was light last winter, but it came earlier and was at one time eight inches in depth, and I was able to keep my trees covered all winter. Their extreme height was six or seven feet. The fruit-buds were preserved beautifully, although the mercury went down to 8 or 10° below zero, and the buds on all the standing trees in my neighborhood perished. My best tree bore 250 perfect peaches; another 150; the others not so many, but still handsome crops. They all ripened finely on the trees, and I enjoyed what nobody else did under similar circumstances—quite a supply of the most delicious fruit in the world, grown upon my own grounds. My trees are now eight or ten feet high, quite spreading, are healthy and vigorous and full of bearing wood. The blossom buds on them may be counted by thousands, and as they are to be subjected to the same process as before, I have no doubt they will produce me several bushels of fruit next year, let the severity of the weather be what it may during the coming winter.

As soon as I found out what could be done in this way, I increased my stock of trees, having set new ones in both 1863 and 1864. They now show nume rous fruit-buds, and I shall bury them all in the way I have described, although some of them are mere shrubs. I shall be satisfied with a dozen peaches on these, although the largest will probably bear from four to six dozen.

Some of your readers may think the amount of labor requisite for this object a serious matter, but I do not. Two men will lay one of my largest trees down in ten or fifteen minutes, and replace it in the spring in the same time. They will have to be watched during the winter to keep the snow on, and in this region of light and fugitive snows, they should be attended to at every fresh fall until a foot in depth is accumulated upon them. In my case, whenever we got an inch or two of new snow I went out with a broom and swept it up for a considerable space around my trees, and threw it up on the pile over them. In more snowy regions, after the work was once done, this close supervision would not be requisite.

In the natural peach-producing sections recourse, to this method would not be necessary; but where the blossom buds are liable to be killed by the extreme cold of winter, and where the snow can be depended on, every man who tills a farm or cultivates a garden can always produce a peach crop at least for family use, and I see no great obstacle to its being done in a small way for the market. The cultivation of one hundred trees would not involve a very large expense, and if confined to the varieties which bring the highest price, as the Morris Whites, for example, which sold in this city last fall for seven dollars per basket, it might be made quite remunerative.

The simple substance of this plan is to plunge the peach beneath the snow during that portion of the season in which the mercury is liable to fall below six degrees below zero. In any part of the country where this extreme degree of cold occurs, and yet where snow is found, if the tree itself can be carried over the winter, so can the fruit-buds. I think the peach can be grown any where in the Northern States where these conditions may be found.

The time for laying trees down is in the month of November or December, before the ground freezes solid. Pile on the first snow that comes, and keep them covered as long as the snow lasts.

I hope this article will be in time to induce some of your readers to give my method a trial this winter. If others shall succeed in it as well as I have, it may result at least in stocking a good many gardens with the peach where it is now not known that it can be grown. V. W. S.

Syracuse, N. Y., Nov. 16, 1864.

Cheap and Simple Plan for Wintering Bees in the Open Air in Movable Comb Hives.

Mr. O. Sprague of Fulton, Whiteside county, Illinois, has devised a plan which, with some modifications, promises to effect as great an improvement in wintering bees as the movable comb frames have wrought in handling and managing them. He has tested it for three years—first with nine, then with sixty-four, and last winter with seventy-five stocks, without losing one where the bees had sufficient honey, although from the extreme cold of last winter many bee-keepers in his vicinity lost nearly all their colonies.

Having noticed that *dry corn cobs* were admirable absorbents of moisture and non-conductors of heat, it occurred to him to remove in the fall the honey board and use cobs in its place. These can be easily cut to suitable lengths with a sharp hatchet, so that two rows laid crosswise will exactly cover the tops of the frames, by alternately placing the rows butt to butt and point to point. A few nails in the front or rear ledge of the hive, or tacks in the tops of the frames for the outer cobs of each row to rest against, will keep them in place when the cover of the hive is raised.

Mr. Sprague has a machine by which he cuts thirty or forty cobs per minute, and in one day he can cut and adjust enough for fifty stocks. If stored in a dry place they are almost as durable as cork, to which, in warmth and dryness, they bear a close resemblance.

Mr. Sprague says that the bees easily pass from comb to comb under the warm hollows made by the cobs where they lie against each other, thus requiring no other winter passage. In the coldest weather his bees are warm and dry, adhering closely to the lower sides of the cobs, and they come out of winter quarters in prime condition, very few having died in the hives. The frost, which often gathers in the upper cover of the hive, cannot, when melted, wet the colony, as the cobs will absorb and retain all the dampness which can possibly arise from "the breath of the bees." Before using the cobs, his colonies, when wintered on their summer stands, were often in the spring both weak and sickly. By removing the honey board he sometimes saw large drops of water on the tops of the frames, even when all its holes had been left open for the escape of dampness, and in some instances the bees were so drenched that a sudden change to a severe temperature would have frozen them into a solid mass if left in the open air.

Mr. Sprague farther claims that the cobs enable him without any drawback in wintering his bees, to use a *low or shallow hive*, which shape he is satisfied, after much experience, yields more surplus honey in marketable form, than can be obtained from taller hives.

Since Mr. Sprague communicated his plan to me, I have placed a layer of cobs on the *bottom board*, also suspending the frames on cobs fastened to the rabbets; and have lined the *sides* with cobs held in upright position by fine annealed iron wire, fastened to the heads of nails driven into the sides of the hive.

I think that these sides and bottom linings are a great improvement, and that the saving of honey will more than pay for their additional cost. Many, however, will prefer Mr. Sprague's plan, as it requires less labor, and may be used when the lateness of the season does not permit a more thorough lining of the hive.

If any stocks are likely to need feeding, I would advise shortening two or more of the central cobs of each row, so as to leave a space for a piece of old comb or a shallow feeder, which when covered with cobs and old woolen garments, will allow the bees to be safely fed in the coldest weather. In the spring, a little food to stimulate breeding may be sprinkled on the cobs, or water, when the weather is too chilly to allow the bees to venture abroad.

In many parts of Europe where corn-cobs cannot be obtained, *winter* lining for movable comb-hives may be made of straw. *Permanent* linings of straw are objectionable, because they afford in summer an excellent harbor for the larvæ of the bee-moth, and occupy so much room that the size and cost of the hive must be considerably increased. There is no need of any *summer* lining to prevent the combs of movable frame hives from being melted by the heat; as with proper ventilation, such hives may be safely exposed if necessary to the full heat of our hottest suns.

There can be no question that corn-cobs are preferable to straw, either as temporary or permanent linings for bee-hives; and the lovers of the busy bee in this country will appreciate the services of Mr. Sprague, in suggesting and successfully experimenting with a material so cheap, so lasting, and so univerally accessible

Oxford, Butler Co., Ohio, Oct., 1864. L. L. LANGSTROTH.

WHEAT DRILLING VS. SOWING.

The last Report from the Department of Agriculture contains extracts from its correspondence in several States with regard to the comparative freedom from injury of the Wheat crop, where drilled in and where sown broadcast. These extracts, if fairly representing the results of both ways of seeding, would certainly indicate that the former far excels the latter, in the safety and certainty of the product.

From the great wheat-growing State of Illinois, letters are given from nine counties, nearly unanimously asserting that the "drilled is much superior to the broadcast." From seven counties in Indiana there are reports of similar tenor—with the exception from one writer that where the ground is rough and cloddy, the broadcast succeeds better, and from another that the greater success of the drilled is thought to be due, not to the fact of drilling, but to the better preparation of the land necessary in using the drill. From Ohio there are reports from eight counties, with widely varying estimates of the actual advantage resulting from drilling, but all agreeing that it affords greater protection against the effects of frost. A correspondent in Michigan gives as the chief disadvantage of drilling that the wheat "in wet seasons is liable to be submerged in the ruts on undrained soils," the water freezing solid over these ruts and thus smothering the grain. He sowed 400 acres last autumn, both with drill and by hand, but while the latter was not worth cutting, the former gave a fair crop. Other extracts are given, from Iowa, Maryland, New-Jersey, Missouri, Kentucky, Pennsylvania, and New-York. A correspondent in Ontario county (N. Y.) writes: "We had 16 acres of wheat drilled, which is estimated at 30 bushels per acre, whilst the next field sown broadcast is estimated at but ten bushels per acre. Both fields were cultivated in the best manner, are tile-drained, and were well manured. We drill *two* bushels of seed per acre, and sow *three* broadcast. So you will perceive that there is a great saving of seed by drilling. It also, by leaving the ground in ridges, protects the plant from the cold winter winds, and in the spring, as the earth thaws out, it crumbles and falls around the roots. Hence the roots are not injured by alternate thawing and freezing, as are those of the broadcast sowing."

Arguing from the data presented by these and other correspondents, together with the computed aggregates of the crops of 1863 and 1864, the writer of the Department Report, calculates that the loss of wheat the present year was some six millions of bushels greater than would have been the case if drilling were universal. This is upon the supposition that about two-fifths of the crop was drilled in, while the remaining three-fifths was sown broadcast. Of course such an estimate as this may or may not be very wide of the mark, but there can be no doubt that it rests upon some foundation in fact, and that with such a winter as the last, and indeed in some part of the country during every winter, the advantage of drilling is very great.

To derive the highest advantage from it, however, it should be accompanied by good farming in other respects. Drainage should be attended to, and the soil made mellow and well pulverized for the reception of the seed. And the higher the condition of the land, the greater the advantage, for the two reasons, first, that the number of stalks likely to come from each seed—its propensity to tiller well, is increased, and, second, that from the uniformity of seeding in depth and distance apart, each plant has an equal start and an equal power of availing itself of all the nutritive matter within its reach.

With these facts satisfactorily established, we look for a continual increase in the area of winter grain drilled, as compared with that sown broadcast. And manufacturers of good machines for the purpose would find it to their interest to keep them advertised at the proper season. Every year we have more or less inquiries on the subject, and it is a long time since an advertisement has appeared in our columns which would show that a single implement of the sort was made in the country.

We have adverted to the subject not only from its own importance, but also because it is a good and appropriate thing for the Agricultural Department to obtain from its correspondents all the information it can elicit upon such matters of practice. Facts thus collected—if *facts* they invariably are—will go farther to extend and support an improved system, than all the essays that were ever written within the walls of the Department. It is gratifying to note that these Bi-Monthly Reports have been confined far more closely to their legitimate purposes, since we had occasion to refer to the subject before; and, as we have already said, if properly conducted, they will form a very useful adjunct in the operations of the Commissioner.

THE APPLE-TREE BORER.

Henry Ward Beecher, in his recent remarks at the horticultural gathering on Iona Island, said the only serious enemy of the apple was the borer. He remarked, however, that one-half of the labor required for securing a crop of potatoes, acre for acre, would entirely exclude the borer from the trees. Any good orchard, he added, would yield half as much, from the same area as a field of potatoes; and the owner who was not willing to expend a corresponding amount of labor to save it, deserves to be bored. We think he is very moderate in his estimate of the products of orchards—for any one under good management, with productive varieties, should average 10 bushels yearly from a tree, or 400 bushels annually from an acre of 40 trees two rods apart. Very few farmers obtain this amount of potatoes. There may be seasons when the apple crop would be much smaller, but as a fair estimate it will be fully equal to that of potatoes. An examination of the trees three or four times a year by a man with a quick eye, sharp knife and flexible wire, will effectually destroy or exclude the borer.

There is another enemy, however, which of late years has proved rather formidable—this is the apple worm, which we must destroy, if we would have fair marketable fruit. Dr. Trimble's remedy, mentioned in this paper a few weeks ago, may prove valuable; in addition to which the practice of thinning the crop before maturity, and removing all the smaller specimens, and those infested or punctured by insects, will contribute to this desirable end.

Why is a lady's belt like a scavenger? It goes around and gathers up the *waist.*

Report of the U. S. Commissioner of Agriculture.

The "Annual Report of the Commissioner of Agriculture for the year 1863," has just been published. It is a volume of nearly 700 pages.

The first article is a description of the International Exhibition at Hamburgh, by Daniel Needham of Vermont. It is interesting, although not adding materially to what we have had in previous accounts of the same event. Articles on Minnesota and West Virginia follow, and then we have a few pages each on Tobacco, Hemp, Root crops, Flax, and the Teasel, from different writers. Mr. Elliott next describes some popular varieties of the Apple, Pear and Grape, and the culture of the Cranberry, the Strawberry and the Grape are treated by others, with short notes on Wine making. Francis Morris of New-York contributes a chapter entitled "Cavalry Horses in America," which is worth a careful reading, and contains suggestions that should, if possible, be carried out.

Although some may not coincide with all that Mr. Morris says in defence of racing and the race-course, we can none of us overrate the value or importance of the horses of the country, or question the propriety of giving greater attention to their breeding. If there was more and better encouragement to breeders here, as there has been in the South, and is now in England, we should have less to complain of in the usurpation of our local agricultural shows by the horsemen; they would have other fields of competition *of their own*, to the better advantage of *their* interests and without detriment to those of others. Mr. M. points out distinctly a fact which, previously to the recent New-England Fair, we supposed to be recognized by all—"that no trotter has ever shown courage, endurance and mettle, whose pedigree could not be traced with more or less directness, to good racing stock." * * * "The many good qualities of the Canadian pony are due, without doubt, to the early importation by English officers of valuable racers to Canada." Our limits will not admit of continuing the subject here, but we shall recur to it hereafter, as Mr. Morris writes both from long observation and from much experience.

The Conestoga horse is next described by another contributor. J. T. Warder, Springfield, Ohio, gives some concise and practical remarks on Mule Raising. The portraits of one or two animals from the Thorndale herd, appropriately accompany a page or two on the Short-Horns. Sanford Howard describes the charactereristics of Ayrshire Cattle, with engravings from the herd of H. H. Peters. H. D. Emery, Chicago, has an article on Hogs and Pork Packing in the West. Among other articles—for we cannot include the whole list—the favorable side of the Cashmere Goat question is elaborated at some length; H. S. Randall discusses the Selection, Treatment and Diseases of Sheep in the United States, with illustrations from various flocks—(we regret that we cannot compliment the Department on the execution of most of its engravings); W. W. Hall, New-York, treats of Farmers' Houses, mainly from a sanitary point of view; Simon Brown of Massachusetts, writes well and gracefully on Farmers' Gardens; S. L. Goodale, of Maine, practically and at length, on the Manufacture of Cheese as a staple article of export; M. L. Dunlap of Illinois on Agricultural Machinery; J. S. Lippincott of New-Jersey, on the Geography (or climatology and acclimation) of Plants. A summary of the Dog Laws of the different States is presented. Richard Colvin, Baltimore, gives the results of the introduction of the Italian Honey Bee, and of its intermixture with the common Honey Bee of the country. The volume concludes with the Reports of the Superintendent of the Experimental Garden; of the Entomologist; of the Clerk of Statistics; and, from the Smithsonian Institution, on the Meteorology of 1863.

From this summary review of its contents, it will be perceived that the present Report is marked by some interesting features; and if, as usual, it scarcely reaches the high standard at which many would gladly see it aim, that it cannot nevertheless be as widely circulated and read as it is, without contributing in a considerable degree to the general information of those engaged in rural pursuits.

COTTAGE CHEESE.

Many of our readers who have had to purchase cheese at the rate of twenty-five cents per pound, or what amounts to about the same thing financially, have had it for sale at this price, would doubtless be glad to know the best was of making a cheaper substitute—and one which by the way of vatiety would be preferred to common cheese. A family which has the milk of but one cow in summer, may enjoy a plentiful supply; and occasionally during the warm weather of winter, if the room where the milk is kept favors coagulation, a pleasant treat may be sometimes obtained.

A skillful housekeeper, at whose table we have frequently enjoyed well made cottage cheese, furnishes us with the following directions for making the two best kinds. There are worse modes which we prefer to omit. The ball cheese is made as follows:—Mix the curdled or loppard milk with an equal quantity of buttermilk, and place them over the fire in an iron vessel. The mixture should remain till it becomes hot, but not scalding, for if it is boiled the cheese is spoiled, and the work is foiled. It must be "severely" watched at this time, and as soon as it begins to curdle and the whey appear, take it from the fire. Put it in a bag and let it drain until the next day. Then mix enough salt with it to give it a proper flavor, and add either cream or butter to give it a proper consistency to work into balls—the cream to render it softer, or the butter to harden it, as the case may be. This is a good kind of cheese, but the following is better:

Pour boiling water from a tea-kettle spout into the pan containing the loppard milk, beating it all the time with a spoon, until it begins to granulate and the whey separates. About one-fourth of the quantity in hot water is usually sufficient. Then empty it into a collander, and let it drain about ten minutes. Pour on a quart or two of cold water, and as soon as this drains off, apply salt enough to give it an agreeable taste. Put it in a dish for the table. Some persons prefer the addition of sweet cream when served. This kind of cheese is quite sweet—the first described has some acidity from the presence of the buttermilk, and on this account is frequently preferred by the sick.

Grapes in Michigan.—A correspondent at Galesburg, Mich., writes us: "I have been for the last ten years engaged in cultivating the grape-vine at this place, with varied success as the season varied, but with general success. The season last past has been the poorest season for grapes within the ten years, for I only gathered about twelve hundred pounds from the same vines where I gathered two tons in 1863. S. B."

Remarks on Breeding Dairy Stock---III.

Messrs. Editors—In my last letter it was stated that in the early and growing part of a cow's existence her milk-forming gland and the blood vessels leading thereto, are most susceptible of improvement. Attention was called to facts showing the peculiar expansibility of the organ and function by which milk is largely elaborated, to encourage farther efforts to increase the products of the dairy without a corresponding increase of expense. It is, however, of more importance to the country at large, that all shall learn how to raise heifer calves so that none shall lose the advantages which the best stock possesses. It is not every man who can take the most valuable calves from the best dairy cows and raise them in a way that will expand and utilize all their natural and acquired powers for the long secretion of milk.

If calves and young heifers are over-fed, as many Short-Horns and Devons have been, the cellular tissue in which fat is deposited, and the blood vessels supplying the same, will early attain a growth and a power in the system that will prevent, during pregnancy and before, the equal development of the milk-forming apparatus. This diversion, when it has become organic, is past remedy in after life. Then if you reduce the food of a cow she loses flesh and milk, and never augments the latter. The blood vessels that connect the heart with the lacteal gland, and the gland itself are both smaller and feebler than they would have been had the fat and flesh forming functions been less stimulated and developed in the plasticity of youth. "As the twig is bent the tree's inclined." Be careful to bend the twig aright for dairy purposes. To do so one must avoid alike both over and under-feeding. This, I believe, is the practice of those who raise the best dairy cows in the State of New-York.

Heifers from good dairy stock often require milking a week or more before the birth of their first calves, to avoid the caking of the milk, and the inflammation of the parts. Indeed, many old cows demand this attention; and their milk, drawn a month or six weeks before calving, has half-raised other calves by the time their own came into the world. Considerably more milk will be obtained, and the gland that separates it from blood will be improved permanently, if all severe pressure is taken off or rather prevented, by milking every eight hours, (three times in 24.) When it is seen that suitable food runs mainly to milk, there is little danger of over-feeding; while there is positive gain in the way of strengthening and enlarging all the parts concerned in this maternal office. By changing for the better each heifer, from one generation to another, in time the whole body becomes a perfect milk-forming machine; and then one has only to keep clear of deterioration by error or neglect of any kind. The best steam-boiler will explode and be lost, if neglected when driving the engine. Farmers run a large amount of complicated living machinery, and negligence does them more harm than any thing else. Young stock is often stunted and seriously damaged by being kept on poor pastures in summer, and on scant forage in winter. Neat cattle cannot but suffer in size, form, flesh and every other good quality, by the practice of semi-starvation. It is this that ever keeps down nature's efforts to elevate her offspring; while it fills the Union with millions of inferior cattle. Nature loves beauty and proportion; and we see these qualities in animals and plants which are not deformed by the lack of nutriment.

It is frequently remarked that "blood will tell." It tells oftener of neglect in the present than of skill in the past. A man who cannot appreciate gold and lead at something like the true value of each, may as well have a pound of the one metal as the other. For my own part, and knowing both, I should prefer giving $300 a head for choice dairy stock raised in Herkimer Co., to paying $10 for the common stock of Maryland. The Herkimers need not only a name and a record, but far more pains in weeding out, and more caution in letting in undesirable blood. In short dairymen must unite scientific breeding with legitimate dairy husbandry—raising dairy cows to be sent west and south for the multiplication of animals of this kind where they are greatly needed. As a man is permitted to set almost any price on his superior seed corn and wheat and finds willing purchasers, so men having seed that will produce the very best dairy stock in the world, can find buyers at generous prices. The farmers in England who paid Mr. Robert Bakewell $30,000 a year for merely the use of his rams (a breed made mainly by one man) did not lose money by the operation, because they understood the intrinsic value of blood of the right stamp. How small was the field of their enterprise compared with this continent, where we already have nine million cows, and need as many more!

District of Columbia. D. LEE.

Varieties and Profits in Poultry Keeping.

In answer to several inquiries, your correspondent, Brooks, makes answer—First, as to making poultry *pay*, I know of no reason why 100 to 300 hens may not be kept with as much or greater proportional profit, as 10 to 30; that is, with proper care.

I have kept, for the last four years, from fifty to two hundred and fifty, *always* with profit, reckoning upon the following basis: Whatever is fed to them to be reckoned at market prices, whether bought or raised on the farm, and all eggs and chickens to be reckoned in the same way. I have found that one year with another the profit upon each hen that I may have on the first of March, has been from 50 cents to $1 per year. I have not, however, reckoned any cost for time or buildings, as I have taken care of them myself, as a pastime, mornings, noons and evenings, when resting from the labors of the day, and my buildings have not cost me more than thirty dollars for lumber. The work of construction having been done during rainy days, when most of my brother farmers are either doing nothing or gone to the village to talk politics or play checkers, I have made no account of.

I have tried several different breeds, but having found no one breed that was just the thing for my purpose, I have had recourse to crossing as follows: I obtained the best specimens of the White Faced Black Spanish, Leghorn, White Crested Poland and Java breeds to be found, without regard to cost, and after two years have just the fowl for my purpose, i. e., to raise eggs for market, selling of the chickens only the surplus cocks and least promising pullets.

The hens which I have thus obtained breed to two colors, either black or very dark grey, with fine large combs and wattles, yellow or dark slate-colored legs; are hardy and most excellent layers, averaging about five eggs per week the year round; are good mothers, not wishing to set until rather more than a year old, and easily checked in this desire if wished. Of this cross I have at present about one hundred.

As to the Leghorn fowl, I would say that as far as I have observed, they are either white, grey or speckled, with large wattles and comb, the latter rather coarse grained, and coarsely serrated, usually erect, with yellow or very light slate colored legs—the white being much smaller than the dark grey and not as good layers. I do not now know of any one who has the pure-bred Leghorns at present.

In regard to the pure Bolton Greys, I had a few of that breed once, and never want any more of them, as although good layers, they are always poor, tough and dark-colored in flesh, and no one will buy them to eat the second time.

With a few hints in regard to the manner of keeping fowls, I will close this already too long letter. First, the hen-house must be light and warm, and kept clean and free from vermin; pure water and good food must also be furnished. During the winter season I keep the following constantly before my laying hens—equal parts of barley, corn, oats and buckwheat, in a box about seven inches deep, and of such dimensions otherwise as will hold about a week's supply for thirty hens, which by the way is as many as I allow to run together during winter in one apartment. To prevent the hens scratching out the grain, I put slats one way across the top of the box. During the warm parts of the year my poultry all run at large, as although I do not get quite as many eggs, they do not cost as much per dozen, and I find the fowls endure confinement during winter better than when confined the year round. For the last year my eggs have cost me during the summer and fall about ten cents per dozen, and fifteen during the winter, for which I have at no time received less than thirty cents per dozen, and for many dozen fifty cents. The above estimate of cost is made for winter upon the keeping of the laying hens only—for spring upon them and all other fowls over five months old.

I do not find raising chickens as profitable as eggs, although there is some profit, say from five to fifteen cents per chicken, according to one's luck in hatching and raising.

During the winter, hens that lay must have meat and a variety of vegetables; of the latter I find cabbage to be the best and cheapest. When thus cared for, eggs will be as plenty in winter as in summer, and will cost but little more. Another advantage of letting fowls have a free range during the summer, is that they pick a vast quantity of bugs and worms that would otherwise be hurtful to the farmer. I find that my apples are not near as wormy as when I came on to this place. This is quite an item when one has some four hundred trees in bearing condition.

As to one's finding it profitable to employ a man to look after the poulty, doing other work when not occupied with such, I am not able to say, but should think not, as a boy of a dozen or fourteen years, would do just as well with a little instruction, and could do many other light jobs about a farm, that a boy can do as well as a man. Of one thing I am very sure, namely, that without the strictest regard to cleanliness *no profit*, *but loss*, may be expected. I do not see the need of employing any one to take care of fowls, as I have had this year nearly three hundred, and have taken care of them myself, besides working my regular hours on the the regular farm work. BROOKS.

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Devon Sale.—We learn that Mr. JACOB H. KNISKERN of Carlisle, Schoharie Co., has lately purchased from Captain JOSEPH HILTON of New Scotland, the Devon Bull Alexander, winner of the 1st prize at the late fair of the New York State Agricultural Society.

MY OAT CROP.

MESSRS. EDITORS—As Old Hurricane has given us the "loss and profit" of his last year's oat crop, with your permission I will give mine, or at least we will take two acres of it, and first let me state what kind of soil, and in what condition; the land was a barn lot, soil a yellow loam, a very steep side-hill, facing the south, so steep that its former owner would not plow it for fear that it would wash down into the swamps; it had not been plowed for many years, but mowed every year, and all taken off and fed in the stable; no manure returned except what the cattle dropped, and that, most of it, near the barn and fences, When I bought it I put a side-hill plow into it, and turned it over nicely, and planted corn. A better crop I never raised but once before; and thinking it too rich for oats, planted it again with corn last year, and had a poor crop from some cause, and this season sowed to oats—all three crops without any manuring.

OAT CROP—DR.

To boy and team to plow, 2 days, $1.75 per day,		$3 50
Nine bushels of Oats, 80c. per bush.,		7.20
Sowing the same,		50
Boy and team to drag and brush,		1.50
Cutting two acres,		2.00
Raking and carting,		2.00
Self and boy one day threshing with machine,		5.00
		$21.70

CR.

By 100 bushels of Oats sold,	$100.00	
Ten bushels saved for seed,	10.00	
		110.00
Profit,		$89.00

It will be seen that I have charged no interest on the land. I will let that go toward about a dozen bushels of oats that one of my Irish neighbors wasted getting *his* hogs out of them one rainy day, up to his shoulders in oats, just before I cut them; he thought himself lucky in getting them out at all, at all. And here let me say that I can endorse every word Old Hurricane said about hired help. I have been through the same mill, and I assure you it is anything but pleasant.

It will be seen that this is not the greatest yield of oats that ever grew, but it was a good one. Perhaps some may think that I made large acres, but when I bought it a good surveyor measured and pronounced it a few rods short of two acres. If I had sowed one bushel less seed, I think there would have been more oats; it was done to keep the oats from laying down; but 4 bushels is enough on any land, and 2½ bushels enough on some land.

I have now sowed this fall one bushel and three pecks of rye, and one bushel of timothy seed, on the same piece, and prepared it for the mowing machine, and wait for the result.

Bethlehem, Conn. L. F. SCOTT.

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The Country Gentleman.—We are in regular receipt of this excellent agricultural paper, published by L. TUCKER & SON, Albany. We have long regarded the COUNTRY GENTLEMAN as the very best weekly publication in the United States. It is entirely devoted to agricultural affairs, each number containing the experience of practical farmers on subjects relating to farm management, agriculture, horticulture, &c. There is no department pertaining to the farm but is ably discussed by practical men, and we consider its great success is owing to this fact. Any person owning or working even the smallest plot of ground, or a garden, would be well repaid by a subscription to this paper. The practical hints, the useful receipts and general information, are worth ten times the subscription price to any man under such circumstances.—*Penn Yan Democrat.*

AGRICULTURAL READING.

It has long been our custom toward the closing year, to call attention as prominently as possible, to the beneficial influence of AGRICULTURAL READING, and to urge upon Farmers a more general and liberal support of the Periodicals devoted to their interests. Doubtless to many this has seemed almost like a work of supererogation. We recollect a year or two ago, after having gently criticised a very interesting and useful volume bearing upon the position, hindrances, and helps of our agriculture,—in that no more prominent place in the last-mentioned class, was given to the Agricultural Journal, and because there was, throughout, so little acknowledgment of its claims upon the farmer,—receiving from the author what he thought an ample explanation, resting upon the supposition that these claims were already universally recognized, and that there was consequently no need of asserting what everybody was ready to admit.

On the contrary, there seems to be no doubt that about nine farmers out of ten take no agricultural paper whatever, even if we include as agricultural papers, those which are very largely given up to other subjects. There is thus evidently great room and a great necessity for the extension of their circulation. To accomplish this object depends mainly upon those who voluntarily devote a portion of their time to procuring subscribers, since the majority of farmers who might willingly assent if requested in person, would probably never be reached by any advertisement of the publishers, however widely disseminated. Newspapers have eager friends to advance their interests, among those belonging to the same party, who are desirous of spreading the party doctrines. Religious journals have a corresponding influence among the churches of their own denomination, constantly working in their favor. But periodicals like our own are more than any others dependent upon disinterested exertions, put forth on the part of those who see the importance of an Improved Agriculture, and are determined to advance it by every means in their power.

It is gratifying to us to be able to bear witness to the number who have thus unselfishly devoted much time and labor in so good a cause. To them we owe, in a great degree, whatever success has attended our efforts during upwards of thirty years past; and each recurring New-Year has added new friends to their number. Another is now rapidly drawing near, and already the call for "specimen numbers" and the lists of subscriptions received, show that many, both old and new, are bestirring themselves in our behalf.

Our Prospectus and Showbill has just been sent out. In distributing so many, of course there may have been errors and omissions, but we trust those who may accidentally have been passed by, will pardon the oversight and apply for the "documents." And those who receive them, who have not heretofore been among our active agents, will very greatly oblige us, by putting them to as good use as possible, calling the attention of their neighbors and townsmen to the character and aims of our Journals, and endeavoring to secure a club of new subscribers. If those who take the only copy sent to their respective post offices would each obtain but a single subscription, it would add several thousands at once to our lists, and their aid we particularly solicit, as well as that of all others who have occasion to meet their brother farmers from time to time during the six weeks to come.

CATTLE STATISTICS.

One very interesting lesson to be derived from the study of Agricultural Statistics, arises from the developments thus obtained as to the changes constantly taking place at any given point, in the objects for which farming is carried on. It is not only useful to determine the nature and extent of these changes, but they foreshadow to some extent what the future will probably bring forth, and may lead to measures calculated to advance or to retard their progress, as the one course or the other is esteemed advisable.

Dr. S. L. LOOMIS contributes for the Department of Agriculture, an article entitled the "Distribution and Movement of Neat Cattle in the United States," which affords a case in point. Tracing down through the Census returns of 1840, 1850, and 1860, the numbers of cattle reported at each of these periods in each of the several States,—he shows very distinctly and forcibly that with this class of animals, as with civilization—

> "Westward the star of empire takes its way."

An analysis of the returns shows in the first place, that "in the United States every one hundred people require eighty head of neat cattle; that eight of these cattle must be working oxen, and that this requirement has not varied a single per cent. in thirty years; that twenty-eight of the eighty must be milch cows, and that this number has not varied one per cent. for the past thirty years."

Now taking the single State of Massachusetts as an example, we find that she has less than one-half the requisite number of neat cattle within her limits in 1840; in 1850, but about one-third, and in 1860 but about one-fourth the number required for the support of her population. She must therefore import her beef, butter and cheese, and from whence? "New-York, Pennsylvania, New-Jersey, Delaware, Maryland and Virginia," remarks Dr. L., "have not enough to supply their own wants. Massachusetts must, therefore, actually transport to supply her deficiencies from an immense distance. She must reach into our western regions, and out-bid in price all intervening demand. An interesting question here arises, and one of significance to her farmers: Cannot her worn-out and waste lands be made to produce beef, butter, cheese and milk, at a less cost than to transport so far? Cannot the money expended in trasportation and profits, be more advantageously disbursed within her own borders?"

Now dividing the States into three classes—1, those which contain less than the normal number of 80 cattle to each 100 inhabitants, and which may be styled the *minimum* class—2, those which contain between 80 and 100 per centum as compared with population, constituting a *medium* class; and 3, those containing upwards of 100 per centum, constituting the *maximum* class,—we find the respective classes clearly defined as follows:

1. The minimum class in 1840 included, (with the comparatively unimportant exceptions of New-Hampshire and Vermont,) all the territory from the Atlantic coast as far westward as the Chesapeake bay, the Potomac river, and the western limits of Pennsylvania.

In 1850, this minimum line had been carried "at least *five hundred miles farther inland*"—at that date commencing from "the southern limit of North Carolina on the Atlantic coast, and following the boundaries of that State and Tennessee to the Mississippi river, then up that river to the eastern boundary of Illinois, and by that to Lake Michigan." In 1860 this line continued nearly the same.

2. The medium class was a very large one in 1840, including nearly the whole territory not set down as minimum, with the exception of the extreme Southern and Western border. In 1850, the medium class of 10 years before had almost wholly passed into the minimum; and, in 1860, it included many States that were in the maximum class of 1850.

3. The maximum class has throughout been the remoter States of the South and West. In 1860, it was wholly situated west of the Mississippi, excepting only Vermont and Florida.

Excluding, however, the cattle of the Pacific slope, the half-wild cattle of Texas, &c., from the calculation, the requirements for consumption will be found to be 68 instead of 80 to each 100 inhabitants, and the following tables, constructed on this basis, show the respective deficiencies and overplus of the several States in 1860, as compared with their own wants for home use:

Number of Cattle required to make up the deficiency in 1860, *in States not producing enough for their requirements.*

	HEAD.		HEAD.
New-York required,	698,532	Rhode Island required,	80,325
Pennsylvania,	581,223	Maine,	56,545
Massachusetts,	566,262	Dist. of Columbia,	50,303
New-Jersey,	265,695	Virginia,	47,889
Maryland,	212,985	Delaware,	19,076
Connecticut,	92,029	Wisconsin,	15,517

States Producing an overplus of Cattle, and the Amount of that overplus in 1860*:*

	HEAD.		HEAD.
Missouri, overplus,	354,603	Ohio, overplus,	46,790
Illinois,	325,270	Kentucky,	46,227
Florida,	289,275	New-Hampshire,	42,389
Georgia,	285,467	Louisiana,	35,400
Indiana,	256,581	South Carolina,	28,148
Arkansas,	252,561	Michigan,	22,473
Mississippi,	174,087	Kansas,	13,936
Vermont,	148,096	Utah,	12,887
Alabama,	125.346	North Carolina,	9,926
Iowa,	74,244	Nebraska,	9,228

The article concludes with a consideration of the probable changes effected since 1860 in the foregoing figures, owing to the war. But without taking up that question, what has been said suffices to show the extent of the deficiency in Cattle, in the older States, and leaves room to doubt, whether, with all the increase that has taken place in their numbers at the West, this increase is in fact adequate to the constantly enlarging demand in our more densely populated districts at the East. It is certainly no time for neglecting, either at the East or West, the propagation and improvement of this class of stock on a scale of the greatest practicable magnitude.

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Short-Horned Cattle.—S. M. Fox, Livingston Manor, has recently sold to Hon. A. B. CONGER, "Romeo's Juliet," roan, by Romeo, dam Garland 2d; "Wreath," roan, by Island Duke of Oxford, dam Gazette; "Vanity," white, by Oxford Lad, dam Chaplet; "Azalia," roan, by Duke of Gloster, dam Camellia, and "Darling," red, by Grand Duke, dam New-Years Day. And to NEWTON CARTER, Hartford, Conn., "Chaplet," roan, by 2d Grand Duke, dam Garland 2d, and "Little Dorrit," red, also by 2d Grand Duke, dam Darling, by Grand Duke.

The National Garden at Washington.

WASHINGTON, D. C., Dec. 4, 1864.

The garden at Washington, connected with the Department of Agriculture, claims a share of attention from the visitor. It is under the care of the Superintendent, William Saunders, Esq., well known to all of our leading Horticulturists, and a gentleman well qualified in every respect for the position. The grounds at present cultivated comprise about six acres, perfectly level and very neatly and tastefully laid out—the walks are gravelled, with a grass border about one foot in width; a center walk goes from one to the other, with paths midway at right angles, and a drive about the whole ground, reserving on the outerside a border of sixteen feet for plants. Here we have growing, one of each kind of grape that has been obtained and suited for out-door culture in this latitude. A few plants of each kind of currant, gooseberry, raspberry, etc.—of fruit trees, there are one of each kind of the varieties, and it is his design to pursue this plan, so as to have one of each variety of all kinds of fruit *true to name*, scions of which only will be sent out into localities where they are not known. Strawberries also claim much attention. I am pleased with an idea of Mr. Saunders, which is, that instead of the farmers spending their time and means, particularly those in moderate circumstances, in setting out forest trees they should set fruit trees, for in ornamental gardening they can group their pears, apples, plums, etc., just as well, and if properly trained make them just as pleasing to the eye, besides receiving two-fold remuneration from them.

The garden heretofore, or rather when Mr Saunders took charge of it, was devoted chiefly to the raising of flowers and ornamental plants; he has materially reduced the stock, and is now increasing the supply of fruits as he considers it of more real advantage to the country generally to disseminate information regarding fruits than flowers—a very sensible conclusion.

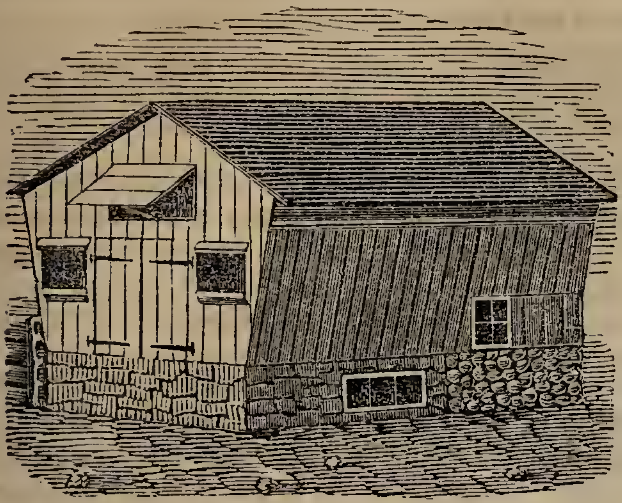
The hot and propagating houses, however, are well stocked with many choice plants, and the most perfect system in all the work is displayed; everything about them, either in doors or out, is scrupulously neat and clean, well ventilated and perfectly heated. He has established an orchard house to illustrate the mode, now becoming popular, of growing various orchard fruits under glass. Peaches in pots were a novelty to me, but if they can be raised so here we can have them in Minnesota. I noticed large thrifty trees, seven feet high, loaded with fruit buds, whose roots were in a box *twelve inches square*, and he told me they had *borne fruit in the same boxes and same soil, for three years, and the trees each year loaded with fruit.* Also that any kind of fruit trees would do the same thing. The secret of it is that any treatment which prevents the growth of roots prevents excessive growth of wood and consequently increases the tendency to fruit. He has a box about thirty feet long, one foot deep and one wide, in which I counted twenty-eight peach and apricot trees, from three to seven feet high—this stands on top of the ground, and the trees are in splendid condition. Now it will be but little labor for us in Minnesota to have the same luxury. We can plant the trees in pots or boxes, and in the fall place them in our cellars, and as soon as frost will permit in the spring, plunge the pots into the ground. One hundred trees could easily be stored in a day, and what a luxury every farmer might thus enjoy.

O. H. KELLEY.

RENOVATION OF OLD PASTURES.

I am aware, Messrs. Editors, that there is an antipathy among our farmers in regard to the improvement of their old pastures. Especially is this the case in New-England, where the pasture lands are mostly rocky, and of very uneven surface. In some sections these lands, after becoming useless, or nearly so, are given over to the raising of wood. In other sections more remote from good markets of wood and timber, it is very desirable that these old pasture lands be renovated. No part of the farm is more useful or profitable than good pastures, and no part of our farms as a general thing is more neglected. It is a sad and pitable sight to ride over some districts of our country and see the poor old, abused, exhausted pastures, grown over with briars, weeds and bushes. "'Tis enough to cause the tear to flow down pity's cheek." While farmers are giving their attention to draining. composting manures, and other sources whereby they can improve their tillage lands, their pastures have been neglected, and most shamefully abused. No part of the farm requires to a greater extent the light and benefit of modern scientific agriculture. This topic has been brought before the farmers of New-England the present season with increased force, as the scorching suns and the want of refreshing rain have partly ruined their pastures. They have had to resort to various ways of supplying their cattle with necessary food. If our pastures were occasionally supplied with the elements of fertilization which we have extracted from them for years, in the shape of bone, meat, muscle, milk and wool, then it would not be imperatively necessary to resort to foddering in the July and August drouth. But how are we to improve our pastures is the question? For many of our old pastures have been hard run with rye and no manure. Rye will continue to yield small crops, just enough to repay the labor for many years in succession, and land may be reduced by it lower than by corn and many other crops. The mosses usually cover such a soil and plowing without manuring does not much improve it, though nothing but grass seed is sown. I have witnessed in some cases the sowing of pastures with both rye and grass seed, and feeding off the whole. This is much better than to reap the rye for grain. It would not be convenient to manure pastures with animal manures from the barn-yard, unless they were plowed up and cultivated. As the most of our pastures cannot be very conveniently cultivated, this mode of renovating cannot be resorted to. The scarcity of labor would have some influence in deciding against the plan, even where the plow could be used. Harrowing answers a good purpose when the sward needs loosening; this can be done at any leisure time, and the cost need not be great. Southern clover and red-top should be sown, together with a little Dutch clover or honeysuckle. Two pounds of this latter will do for an acre, as it spreads rapidly where the soil suits it. Of the many fertilizers that we can apply to our pasture lands, none stand forth fairer for cheapness and beneficial results than gypsum, providing the soil is of the proper kind to be improved by it; and this cannot be positively known, except by an actual trial of the article. A single bushel should be sown on half an acre by any farmer, and his own eye to examine the results will be more certain than all the analyses that have ever been resorted to. A trial of this kind may be made by the poorest farmer without feeling the expense. Two bushels are enough for an acre, and once sowing lasts four or five years, consequently it is the cheapest article ever bought as a manure. It can be easily sown upon our most rocky and hilly pastures where the plow cannot run, or other manures easily be carried. Its effect is to bring up the grass thick and luxuriantly, and to kill out the small bushes. Clayey loams are the soils that are the most benefitted by it. Gypsum is composed of lime and sulphur with a proportion of water, forming nothing more or less than a sulphate of lime. That which has the most sulphur in it is to be preferred. It can be tested as to quality in various ways; but the easiest and surest way for the farmer is to put a small quantity into a skillet and heat it over the fire. Good gypsum will then emit a strong sulphurous smell. Cattle are so fond of the feed where gypsum is sown, that they help very much to kill the bushes. But a reform is needed in all our pasture management. To commence with, it would be much better when land is cleared of wood to let the brush rot upon the ground instead of burning them, providing the quantity was not too large. I can testify from actual observation that the burning of the soil injures it for years, for most crops, and for grass especially. Then we do not seed with a sufficient variety of grasses. In England we find their best pastures to be originally laid down with a greater variety of grass than we ever think of using. Many farmers overstock their pastures, thus carrying from them much more than is returned. It is not the part of wisdom to feed pastures too early in the season before the grass gets sufficiently started to make a vigorous growth; or to feed them too late, so as to have the roots uncovered and unprotected through the inclemency of winter. A greater part of our pastures are *shamefully neglected* by allowing bushes of all kinds, together with brakes and briars, to usurp the place of grass. We know of many pastures where these intruders take up at least three-quarters of the ground; so that while the owner claims that his cattle have the range of twenty-five acres of pasture, they really cannot graze but about eight acres of grass, for there is not more than that space occupied by grass. A little labor and attention in clearing the land of these pests would conduce much both to the beauty and profit of the premises. There should be more attention paid to supplying our pastures with good, wholesome water; because cattle will sometimes drink out of a mud hole does not prove that they should be *compelled* to do so.

Cattle will flourish much better if supplied with an abundance of cool, living, running water. Let a trough be centrally placed in the pasture, where cattle can easily, and at all times, find an abundance of good water. The old saying "that a stitch in time saves nine," is nowhere more applicable to farm management, then to the building and keeping in repair of the fences. A thorough farmer will never entice his cattle to be unruly by putting up a "shoddy" fence, or suffer a good fence to get out of repair. Here eternal vigilance must be the watchword of the farmer, if he would have peaceable cattle, or feel a security for his crops. Thus, Messrs. Editors, I have roughly sketched some points of pasture management, wherein a little thinking, a little work, and a good deal of determination on the part of some farmers, would work out a much needed and lasting reform. Do not postpone till the hereafter, a work of so much importance. Now is the time to commence. Let alike the motives of economy, pride and beauty urge us on to the good work. W. *Cheshire Co., N. H*



CHEAP PIGGERY AND CORN-HOUSE.

The above illustration of a farm-building is designed for a small farm, where only a few hundred bushels of Indian corn are raised, and where only a few swine are kept.

It is 14 feet wide at the base, and about 16 feet wide at the plates, and 20 feet long, and 8 feet to the top of the plate. The frame is built in the balloon style, except that the studs at the lower ends are mortised into the sills; inch boards, 6 inches wide and 16 feet long, are nailed on the studs for joists, which make the upper floor come just to the lower side or bottom of the door, in the gable end of the building, which is hung on hinges to open upwards. A door of slats is made in the end of each crib, as shown in the end of the building; and the ears of corn can be shoveled directly into the cribs from the wagon, on to the main floor, or into the attic window.

The doorway is about 8 feet wide, and the cribs 3 feet wide on the bottom, and ventilators placed lengthwise in the cribs.

The building was erected on a substantial stone wall, and in the rear of the building is a door to enter the feed room, which is six feet wide and fourteen feet long.

The appartment for the animals is about 14 feet square, and the three-lighted window in the wall opens into the apartment of the swine, and the four-lighted one into the feed room.

On the opposite side of the building is a window into the feed room, and a door where the animals enter their sleeping and feeding apartment.

The apartment of the swine is 4 feet high in the clear, while in the feed room it is 6 feet in the clear; and there is sufficient room for swill barrels, meal-box, and a small furnace for cooking food if desirable

The Partition and Trough.—A trough made of plank 10 inches wide and 4 inches deep—which is sufficiently deep for holding all the swill that will be fed at one time—extends entirely across the pen, between the feeding room and the swine's apartment. The partition is made of a *flap door* or kind of board gate, hung on hinges, directly over the trough, to a sleeper or beam overhead. The bottom of the flap can play from one side of the trough to the other, and a wooden button holds it at either place.

When feed is put into the trough, the flax is fastened to that side of the trough near the swine; then as soon as their feed is arranged in the trough the flap is drawn to the other side of it and secured with with a button, when the swine all come up to the trough.

At one end of the flap there is a small door where one could enter the apartment of the swine from the feed room. Directly over the trough is a small door, about 2 feet square, through which grain can be obtained from the floor of the corn-house.

The floor of the corn-house is 20 feet long; but a portion of it, 6 feet long, which is over the feed-room, is 2 feet higher than the other part, which is about 12 feet long and 8 feet wide, which affords ample room for assorting corn or for thrashing it with a machine.

A few loose slats are placed against the studs on the inside as the cribs are being filled, and when it is desirable to get ears out of the crib are slipped a little endways with a crowbar, and the corn will slide out as fast as it is shoveled away, and no faster.—S. E. Todd, *in Tucker's Annual Register.*

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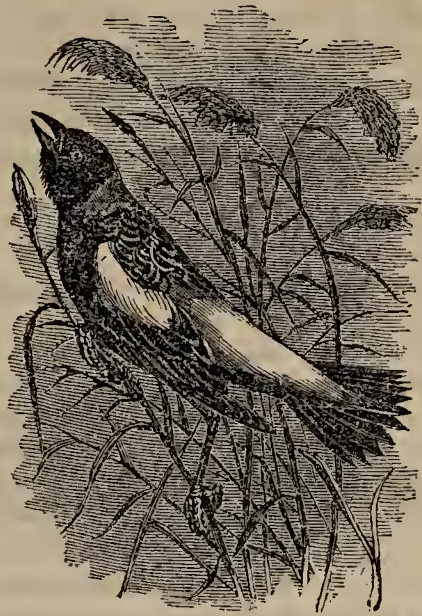

Reed Bird or Boblink---*Dolichonyx oryzivorus.* Sw.

"General color of *male* in spring black; the nape brownish cream color; a patch on the side of the breast, the scapulars and rump white, shading into light ash on the upper tail covers and the back below the interscapular region. The outer primaries sharply margined with yellowish white: the tertials less abruptly; the tail feathers margined at the tips with pale brownish ash.

"*Female* yellowish beneath; two stripes on the top of the head, and the upper parts throughout, except the back of the neck and rump, and including all the wing feathers generally, dark brown, all edged with brownish yellow, which becomes whiter near the tips of the quills. The sides sparsely streaked with dark brown, and a similar stripe behind the eye. There is a superciliary and a medium band of yellow on the head.

"Lenth of male, 7.70; wing, 3.83; tail 3.15." Baird, Pacific R. R. Reports, Vol. IX, p. 522. Ib. B. N. Amer. p. 522.

The familiar bird of which we propose to treat in the present article, receives different names in the different States that he frequents. Thus he is called the "Boblink" in the Eastern States, the "Rice-bird" in New-York, and the "Reed-bird" in Pennsylvania and the Southern States. Of these names, perhaps the first and the last are the ones by which he is most generally known.

This charming little bird has been called the "Skunk Blackbird" by some one evidently not a lover of birds, on account of the similarity of the plumage of the male bird in the the spring to the American skunk or polecat.

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The Illustrated Annual Register of Rural Affairs for 1865, like its predecessors, is as full of good things as an egg is of meat. Every page contains something new and valuable, and the hints and suggestions for the farmer, orchardist, bee-keeper, nurseryman, poultry raiser, dairyman and housewife, will be worth many times the price of the work, which is sent by mail prepaid, for the very low price of thirty cents. It is embellished by one hundred and thirty new engravings, which greatly assist a correct understanding of the text, and we wish it might find its way into every farm house in Maine. Published by Luther Tucker & Son, Albany, N. Y.—*Maine Farmer*

GOOD AND BAD ROADS.

Our Illustrated Annual Register for 1864, contains an essay on "Road-making," from which we copy the introductory paragraphs, together with the illustrations, showing the difference between good and bad roads:

The roads of a country are not only necessary to its civilization, but are certain and accurate tests as to its degree. In savage and barbarous countries there are either no roads, or those only of the simplest and most imperfect character—mere paths for the hunter to wend his way in. But the wants of civilization require roads for the transportation of produce to its market, and the conveyance of passengers for travel or pleasure.

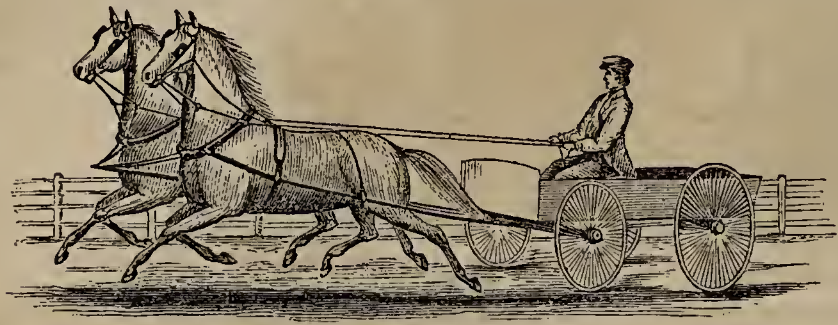


Fig. 1.—*Traveling on Good Roads.*

It is said by high authority, (Gillespie,) that the common roads of the United States are inferior to those of any other civilized country. Whether this remark is perfectly true or not, it is positively certain that a majority of them are miserably and needlessly poor, especially in the newer parts of the country.

If the road-makers had gone to work with the intention of throwing obstructions into them, they could have hardly succeeded better. Loose stones, from 100 lbs. downwards, lie thickly scattered over their surface, destroying the wheels of the passing vehicles, and frequently seriously injuring the horses—lessening the amount which a team can draw, in many instances, fully one-half. These loose stones do every day more damage than the whole expense of removing them from the road. How the community endure this intolerable nuisance, it is difficult to imagine.

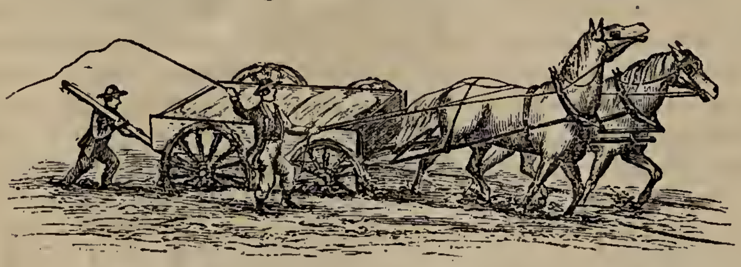


Fig. 2.—*Traveling on Bad Roads.*

In the spring the most of our roads are either a canal filled with mud and water, more fit for a boat than for wagons, or else are an almost impassible quagmire, in which there is imminent danger of sinking into the lower regions. And when the water has a little subsided and left dry ground, then ruts, innumerable and almost unfathomable, fill the road, its entire length and breadth. The cobble stones drawn in previous years, are eagerly sought out by the exploring wheels, over which they go creaking and crashing, like a ship in a storm.

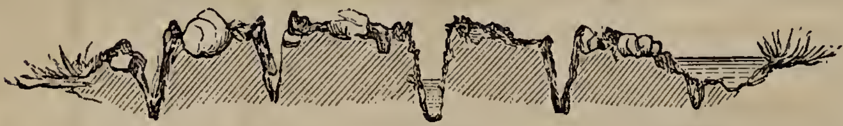


Fig. 3.—*Cross Section of Bad Road, with deep Wheel Ruts.*

Our people are generally sharp for a bargain, and mean to get the value of the money they spend, and do not often stand at the expense of any undertaking if they think it will PAY. How this most important subject of road-making should come to be utterly neglected, is one of the mysteries difficult to understand, and two things are very evident :—1st. There is a great lack of appreciation of the value, in an economical point of view, of good roads; and 2d. There is a great want of proper knowledge in regard to their laying out and construction.

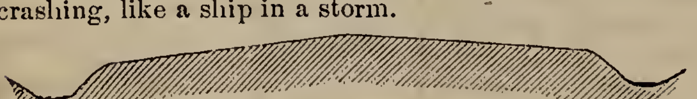


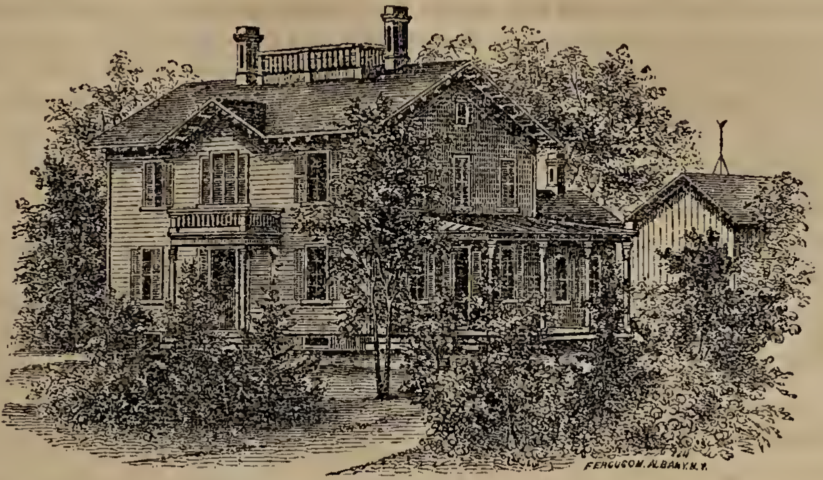
Fig. 4.—*Cross Section of Good Hard Road.*

The office of "pathmaster," (road overseer,) is often taken in rotation by the different inhabitants of the district, and in consequence there is no system or intelligent use of the means at hand for their improvement.

Before we can expect to have good roads, the people must be convinced that good ones are cheaper than poor. If this idea was thoroughly understood and believed, it would go far towards effecting the desired change.

OLD APPLE TREES.

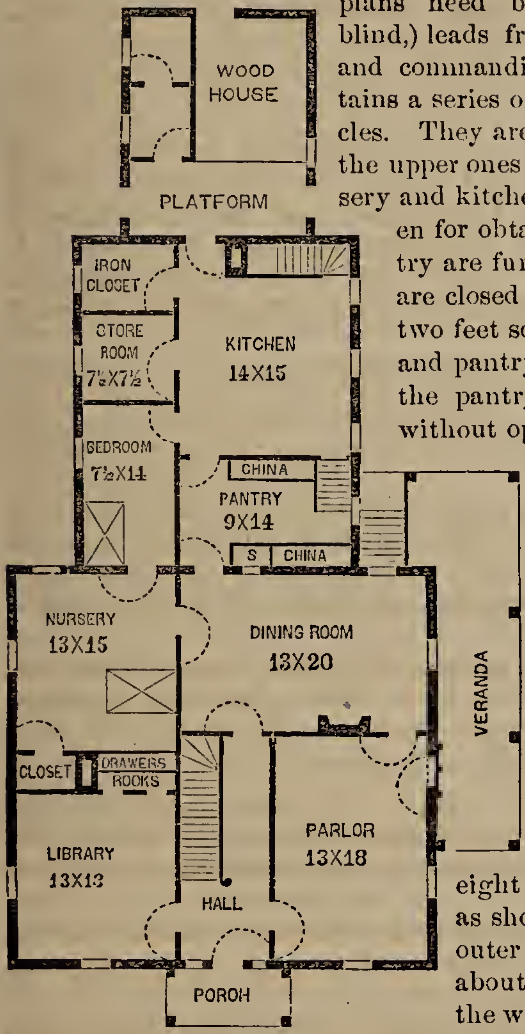
It is well known that orchards, after they have obtained an age of 50 or 60 years, often begin to decline, and an apple tree 100 years old is a rarity. Under favorable circumstances, however, the most hardy varieties have attained even a greater age. A gentleman from Ohio, well known as a successful and intelligent cultivator of fruit, who has recently spent some time in the State of Rhode-Island, informs us that he examined several trees of the Rhode-Island Greening in Hopkinton, in that State, which he ascertained to be 140 years old, now in full vigor and bearing. He measured the trunk of one of them 3 feet from the ground, and found it to be 8 feet 2 inches in circumference, or 2 feet 8 inches in diameter, and another had a spread of branches more than 40 feet in diameter. A single crop on one of them had been sixty bushels. This fact shows the hardiness and longevity of the Rhode-Island Greening, and its value for durable orchards.


FERGUSON, ALBANY, N.Y.

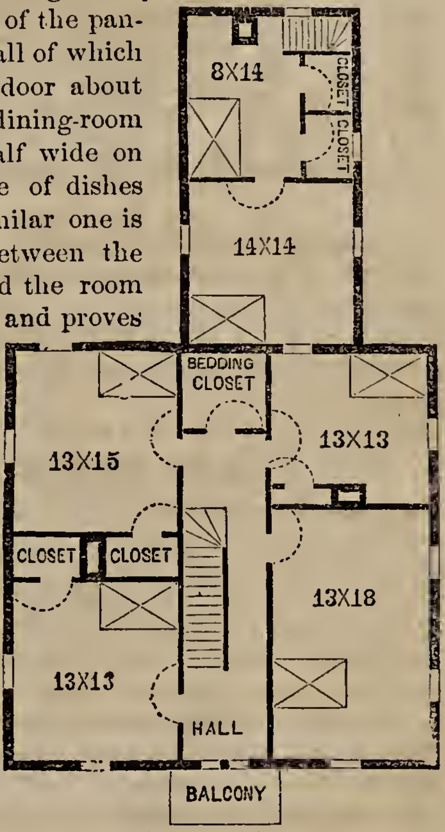
AN EDITOR'S RESIDENCE.

The plans and view here given, represent the residence of our friend and associate editor John. J. Thomas, at Union Springs, Cayuga county, and are published in the current number of the Illustrated Annual Register.

The house was erected some years since. It is built of wood, with the walls filled in with brick. The plans need but little explanation. A double door, (the outer a Venetian blind,) leads from the parlor to the veranda, in front of the ornamental garden, and commanding a view of Cayuga Lake, half a mile distant. The nursery contains a series of drawers, set even with the wall, for containing miscellaneous articles. They are nineteen in number and placed in five series, one above another, the upper ones being small and the lower ones large. The bed-room between nursery and kitchen may be used as a bath-room, being readily accessible to the kitchen for obtaining heated water. The walls of the pantry are furnished with continuous shelves, all of which are closed with tight, narrow doors. A door about two feet square, breast high, between the dining-room and pantry, having a shelf a foot and a half wide on the pantry side, admits the free passage of dishes without opening the common door. A similar one is placed in the second story, between the room over the dining room and the room for domestics over the kitchen, and proves a great convenience.


WOOD HOUSE
PLATFORM
IRON CLOSET
STORE ROOM 7½X7½
KITCHEN 14X15
BEDROOM 7½X14
CHINA
PANTRY 9X14
S
CHINA
NURSERY 13X15
DINING ROOM 13X20
VERANDA
CLOSET
DRAWERS
BOOKS
LIBRARY 13X13
PARLOR 13X18
HALL
PORCH

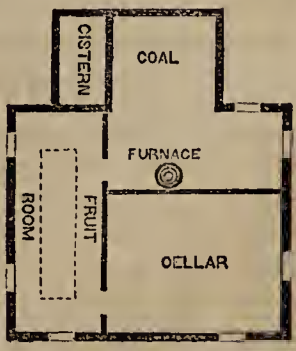
Principal Floor.


8X14
CLOSET
CLOSET
14X14
BEDDING CLOSET
13X15
13X13
CLOSET
CLOSET
13X18
13X13
HALL
BALCONY

Chamber Floor.

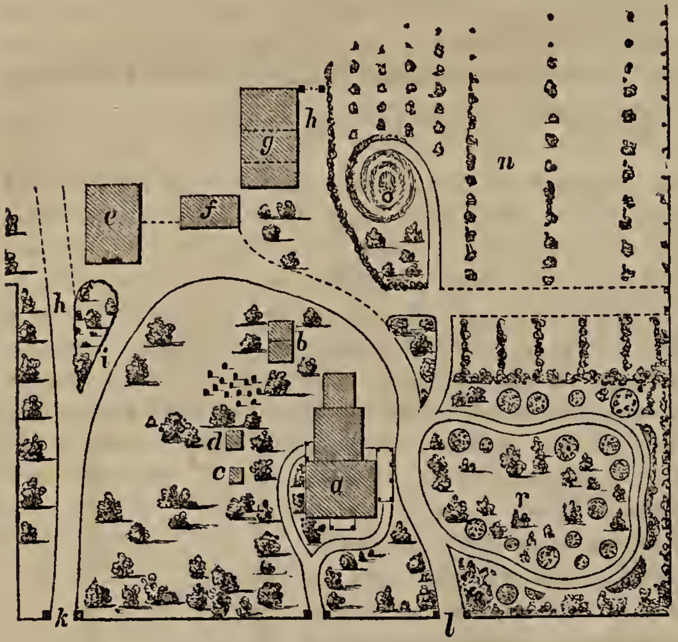
The observatory shown in the perspective view, commands an extensive prospect, including many miles of Cayuga Lake, the surrounding country and distant blue hills.

The basement is finished with a smooth floor of hydraulic cement, and is divided by eight inch partitions into three rooms, as shown in the annexed plan. The outer one contains a stone cistern about six feet by ten feet, from which the water is drawn through an inclined pipe by a pump in the kitchen placed over a stone sink. The same room is also used as a coal-cellar, and contains the hot air furnace. Adjoining this is a room for the general purposes of a cellar. It contains a set of hanging shelves, a safe for articles of food, tight boxes for vegetables, &c., the latter being packed in fine damp moss. The third apartment is the fruit room, about 12 by 28 feet. The shelves for containing the fruit are 5½ feet wide, and extend nearly the whole length of the apartment. The lower shelf is a foot from the floor, the other two with spaces of 2 feet between the shelves. The passage extending around allows free access for filling, picking over and selecting. The upper shelf being in a warmer stratum of air, should be furnished with lids to prevent evaporation and drying. Pears ripen finely on the lower shelves with a thick covering of woolen blankets.


CISTERN
COAL
FURNACE
FRUIT ROOM
CELLAR

Basement on reduced scale.

This house stands on a small farm of about 60 acres, on one of the outer streets of the village, and the adjacent grounds of about two acres are represented in the annexed engraving. L. is the carriage entrance from the street, K. the entrance to the farm and barns. R. represents the ornamental garden, consisting of a closely shaved turf, through which the curved walk passes, and in which circular and irregular flower-beds are cut. Seats are placed under the trees, and a summer house in the remote corner. In the rear of this portion, and separated by an evergreen screen is the kitchen and fruit garden *n*, containing rows of dwarf apples, dwarf pears, and the smaller fruits, so arranged that the cultivation can be performed to a considerable extent by a horse. A natural depression at *o*, about 30 feet in diameter, and 8 feet deep, with a curved walk to the bottom, is planted as a secluded flower-garden. On the other side of the dewelling *a*, and nearly hidden by trees, are the smoke-house *c*, the ice-house *d*, the children's play-room and tool-house *b*, and between them a group of bee-hives. The road *i*, extends to the carriage shed *f*, and the horse-barn *e*, and *h h* to the orchard and farm—*g* represents the farm-barn.



THE ART OF MAKING VINEGAR.

Messrs. Editors—There are many reasons why the art of making vinegar, by the quick, scientific process, should be universally known, a few of which I will name: 1st. It will drive out of the market diluted oil of vitriol, now extensively used under the name of vinegar, to the destruction of human teeth, the injury of the bones and of general health. Twenty dentists are now required to take care of the damaged teeth of a population that would have employed only one 40 years ago, when vinegar was *acetic acid* derived from a vegetable source, unadulterated by any mineral acid or poison.

2d. Acetic acid in hard cider, and in many other forms, has long been known to prevent jaundice, billious fevers, constipation of the bowels, ague and fever, and other not uncommon maladies. In a word, if properly used, vinegar is a fruit and plant acid of inestimable value, and no more need be said in its favor in this connection.

The fermented juices of apples and sorghum are the best materials for making pure and pleasant diluted acetic acid. In both, sugar is changed into alcohol by vinous fermentation, and this alcohol is changed into vinegar by the acetous fermentation. It is the last named chemical action that I hope to make plain to every reader. Acetous fermentation is simply a chemical union of oxygen or vital air in the atmosphere with elements in alcohol, (carbon and hydrogen,) that transforms the alcohol into an *acid*. Perfectly pure, this acid is a solid; properly diluted, yet pure as regards all other acids, it is vinegar. Why should a full, tight barrel of worked cider often keep from souring into vinegar two or more years in a good cellar? Because the oxygen, which is indispensable to convert cider into vinegar, is outside of the barrel, and passes through the wood that surrounds the cider very slowly. Hence the cider turns sour with equal tardiness. Now bring the cider and atmospheric air together in a proper manner, and all the alcohol will be oxydized or acetified at once. I have converted barrels of cider, and of the juice of Chinese sugar cane, into good vinegar in this way:

Make two stout benches, as high as a barrel, and strong enough to support two poles or fence rails, with notches on the top to receive four or five barrels of cider. Each barrel of cider must have before it an empty barrel, with one head out, into which the cider must run by its own gravity. Before it gets to the bottom of the empty barrel it passes over a large surface of common wood shavings, and it is this areation that enables the oxygen of the air to unite chemically with the alcohol, and transform it into vinegar.

As the warmth of summer favors the souring of milk, it equally promotes the souring of cider; hence a warm room is best for making vinegar.

The way to arrange the shavings is important, and must be described. Let the reader imagine he sees the four posts of a splint bottom chair, full of rounds, standing in a barrel, and coming up to the top of it. It is easy to lay sticks the size of candle rods across the rounds, or frame work of the posts, that will support a layer of shavings 3 or 4 inches in thickness. Above this another layer of sticks supports more shavings. By this arrangement the upper half of the barrel is filled with loose shavings, while the lower half is used only to hold the cider that comes trickling down through the shavings.

I make this frame as follows: Saw off an inch board and get a piece just as long as the barrel; from this split four pieces for the posts, about 1½ inches wide. Bore holes with a half inch auger near the center of each post, and others near the top. Small sticks a foot long, and two sticks at each end fasten two posts together, and form the ends of the frame. The posts are set up in the barrel to get the length of the other four cross ties, on which the rods that support the shavings are to rest. This done, four holes are bored through the other sides of the posts, one near the middle, one near the top, and two between. Into these, cross-ties or sticks are put to complete the frame. It is set up in the barrel, and some six or eight small rods placed on the lower rounds. These rods reach to the sides of the barrel, and are covered with shavings. More rods and shavings are placed above till the barrel is full in its upper half. This upright barrel should stand high enough from the floor to draw vinegar or cider into a milk pan or other vessel at its bottom, for the liquid must pass many times over the shavings and be returned into the barrel from which it first starts, before all the alcohol will become vinegar by this process.

Pains should be taken to distribute the cider well over the first layer of shavings. I have done this by using an old baking tin punched full of small holes; and I often spread the cider on an inclined board as it runs in a small stream from the faucet to the shavings—areation being the main object. Without warming the cider, and by its own gravitation, I generally get vinegar in two or three days. As in making beer and light fermented bread, one may be disappointed. Cold is the most common cause of failure. If a woman wets dry yeast-cake with cold water, adds flour and more cold water, and sets her yeast to rise in a cold place, no chemical action ensues. With lively yeast dough will not rise well in the cold.

Placed in a cold pantry, a loaf of moist, light bread will dry up before it will *sour*. These facts show that cold prevents both vinous and acetous fermentation. Hence it may be necessary to warm cider in a brass or copper kettle before trying to sour it. After chemical action has fairly commenced, if you keep the little stream of cider running—the flow of alcohol—it will continue to burn into vinegar by its own evolved heat. The shavings in the barrel soon get quite warm from the oxydation of alcohol, and keep so until the spirit fails as fuel.

In converting whisky into vinegar, yeast is mixed with the diluted spirit; and I use a little yeast in making sugar cane cider into vinegar. I think it best to boil two barrels of cane juice into one for vinegar.

In place of shavings, I have hung both pine and chestnut boughs, top down, on rods in barrels, and made cane cider spread out over their surface, to be transformed into vinegar. This plan does well, but has no advantage over shavings.

To enterprising young farmers I would say, you can make a large profit by raising cucumbers for pickles, making vinegar from sorghum or sugar beets, and putting your pickles in market ready for the table. The hungry million will consume an incredible amount of this article if fairly set before them. Pickled tomatoes are a very healthy fruit, and capable of large and cheap production. Vinegar, as a preserver of both fruits and vegetables, has an undeveloped value of great importance.

Washington, D. C., Nov. 28, 1864. D. LEE.

TICKS, AND HOW TO KILL THEM.

Winter is now upon us, and ticks are something that will not pay to winter, and the cheapest and most expeditious way to kill them is the best.

Well, the best way is by smoking them with tobacco. Take a common hand-bellows, costs but a few shillings, and attach a metallic tube one and a half inches in diameter and six inches long, with a perforated partition near the further end, to prevent the burning tobacco from being blown into the wool with the smoke, and on the end next the smoke chamber attach a nipple-shaped tube, to conduct the smoke into the wool.

No solder should be used in making this tube, as the heat from the burning tobacco will melt the solder; but if you have no smith near but a tin-smith, then wind the tube with old cloth, kept wet to prevent unsoldering; the one we use cost us twenty-five cents at the tin-smith's, exclusive of hand-bellows, which is a family relic reminding us of the days previous to friction or lucifer matches. The tin tube is lapped or hooked together, instead of being soldered, and attached to the bellows by a wooden plug inserted into the tube, and tube of bellows inserted into the plug sufficiently firm to hold the apparatus to the bellows while being worked.

Two persons are required, one to hold the sheep and the other to work the bellows, inserting the smoke-tube well into the wool in spots all over the sheep, or where the ticks mostly borough. A puff or two in a place is sure to kill; then go over again when the nits are hatched.

The cost of material (cut tobacco, or as we prefer a better, the unmanufactured or raw material,) is about one-half cent per head. The time, about five minutes to each sheep; the same time as required in dipping, or rather the time of holding the lamb while being drained.

The expense of Lalor's sheep-dipping composition, for 100 sheep, is $3, leaving a balance of $2.50 per hundred in favor of smoking with tobacco, besides incurring no risk. GEORGE BACHELDER.

Stanstead, C. E., Nov. 23, 1864.

HOW TO TRAP MOLES.

EDS. CO. GENT.—In answer to the query of W. S. C., p. 224—"how to exterminate moles," I would say that the only successful way is to catch them, and the way is *simple and sure*. A lad that can make and put into successful operation a "figure-four" deadfall, can construct a mole trap.

Take an ordinary fence post, six feet long—with two nails fasten a piece of board or old barrel stave across near one end to keep it from swaying when set; on the same side of the post, and within 12 or 16 inches of the other end, with one nail fasten a piece of board a foot long and about two inches wide. Within an inch or inch and a half from each end of this piece, drive through two very sharp 3-16 wire spikes—two at each end—about 8 inches long and ¾ inch apart. Now with the "figure four" it is ready for operation. Make the inner end of the horizontal spindle broad or spoon shaped—have a number of small notches near the bottom of the perpendicular spindle, and so shape the shoulder in the long one that it will catch in them, and not slip up when the inner end is raised.

The mole has some main thoroughfares that he travels often, and many travel the same road. Know one of these by setting your foot on it, and in six or eight hours he will have raised the dirt across your foot-track. In such a place set your trap, and so that the spikes in either end of the cross-piece will drop directly in and through the hole. Press down the dirt pretty tight midway between the spikes—have your spindles so adjusted that the broad end of the long one will rest directly on the ground over the closed part of the hole. Coming from either way, he finds his hole closed, and rooting up the ground, raises the spindle, springs the trap, and lo! he is nailed "tighter than a brick."

With a number of these traps and a boy to tend them, you may soon rid your premises of moles, and collect enough of very fine fur to trim your ladies' garments, make caps, gloves, &c.

You can make one in less time than I am telling you, and they are more successful than any patent steel fixture that was ever put in their hole.

Omaha City, Neb. "DOE" SMITH.

* * *

Cob-meal.—I have read your article from the Utica Herald with much surprise, as my experience with cob-meal during the past year has been so satisfactory that I concluded this fall to try it exclusively in fattening a pen of hogs, and the result is, a better lot, and ready to kill a month earlier than last year, when fed on corn in the ear. In feeding horses I mix one-third cob-meal with two-thirds mill feed. I have an iron mill which one horse easily works, attended by a boy, who can readily grind 40 bushels per day; I procured it of R. Sinclair Jr. & Co., in Baltimore. T.

Swansea Park, Md.

Oats, Corn and Cob-meal for Horses.

Messrs. Editors—"F. H. A." in the Country Gentleman of Nov. 27th, makes some inquiries in regard to feeding Indian corn to horses, rather than selling his corn and buying oats, and also in regard to the use of corn and cob-meal, to which you request a reply from readers who have experience on the subject.

In the corn growing States of the South and West, Indian corn constitutes the chief grain for horses, and indeed for all farm stock. The kind of corn grown in these States is somewhat less nutritious and much softer than the "flint corn" of the more Northern States, and hence it may be considered better suited to horses and other stock than the Northern varieties are. Many of these farmers grind their corn, cobs and all, and think there is an advantage in it, and undoubtedly there is. The cob may contain as much nutritive matter, as the same weight of common hay, not more, yet where mills are convenient that are adapted to grinding both corn and cob, it is done at not much greater cost than is required to shell the corn, so that if there is nothing really injurious to the stock in the ground cob it is better to grind it. It has been stated by some farmers that the hard, glassy portions of the cob are liable to irritate the stomach and intestines of the animals, which sometimes results in serious consequences. This may be more or less the case according to the degree of adaptation of the mill to the purpose. For ten years in the West, I ground all the corn with the cob that I fed on the farm to both cattle and horses. The grinding or crushing was done in a mill of peculiar construction. It is called "Rowe's Crusher." The grinding is done by two iron wheels, two and a half inches thick, with bevel edges revolving in a circular, concave trough, not unlike an ordinary linseed mill. The shaft is loaded with great weight, and the cob, and even the husks are ground quite fine. Besides my own experience in the use of this meal, two German dairymen ground the corn for forty head of cows each. With the cob thus ground' I never discovered any injury resulting to the stock' and believe as others did that there was great advantage derived from the grinding, not only because the ground grain was rendered more thoroughly digestible, but because it could be more intimately incorporated with the cut hay or straw, which I consider the the only proper manner of feeding grain to either cattle or horses. Of course every farmer wets his hay or straw before adding the meal. If your correspondent is required to travel eight or nine miles to the mill, and then pay the ordinary toll, it may be questionable whether he will profit by the operation. In earlier times, grinding corn and cob in a common bark mill, was much practiced by Western farmers and dairymen, but these soon gave place to the more improved mills that have been invented, but none of them do the work so thoroughly as the Rowe's Crusher.

In feeding corn on the cob to horses, as is the common practice in the West, the corn, in the dry part of the season, becomes very dry and hard, and the horses teeth are liable to become sore from eating it. Before I had a mill for grinding, I adopted a method for soaking the corn in the ear: I employed two sets of casks, which were filled with corn and water; and, when feeding from one set, the corn in the other was soaking. It becomes sufficiently soft for feeding in two days, though in cool weather it will keep sweet eight or ten days, and improve by standing. In this state the horses relish it much better than when fed to them dry and hard. The cobs when soaked through are frequently eaten entirely up.

Where grist mills are convenient, and tolls not excessive, I should prefer grinding the grain and feeding it with cut hay while wet. In feeding corn with cut hay, as your correspondent suggests, the corn is liable to settle to the bottom of the trough, and horses would be apt to throw out the feed to get at the corn. With this difficulty obviated by a deep trough, I would even prefer feeding the corn in this way rather than feeding it separate, where it is not convenient to grind it. H. P. B.

CULTURE OF TURNIPS.

Editors of Cultivator—Seeing a premium offered for essays upon Turnip culture, I will give my experience in raising turnips the past season. I had not a very large large piece of ground. I think its dimension was, in rods, 8 by 4. I plowed the land in the spring when I plowed for potatoes. Then about the 1st of July plowed again; then in about two weeks I drew about fifteen loads of fine manure, and spread the whole ground evenly, covering it entirely, plowing it in as soon as possible, and in a few days plowing lightly, and sowing my seed the third week of July, with plaster. I sowed about a thimble full to the square rod, of the common field white and yellow turnip. The result was a great yield of turnips, and the largest that was ever raised in this vicinity, some of them measuring in diameter 9½ to 13 inches—a good many of them measuring from 24 to 38 inches in circumference—all sound, and as brittle as any I ever saw. I harvested from the ground over 180 bushels of topped turnips. This is what I actually raised, measuring them all. I could find bushel after bushel where ten of them would round a bushel basket full. I have other crops that have done finely, and have paid well; but have had no crop that has paid as well as this. Turnips in our street market sell for fifty cents per bushel. I am feeding three head of cattle with them, cutting them up and mixing with meal. I never have seen cattle feed better. I think there is no danger of cloying cattle fed in this way. Turnips digest soon, and must assist in digesting the meal; at any rate the cattle are ever ready for their mess, and are laying on fat as fast as any cattle I have fed or have seen fed. I am glad that the subject has been called up. I hope the competitors will give the readers of your papers their practical knowledge, that people may have facts, not fiction.

Litchfield Co., Ct. C. H. STONE.

The Annual Register of Rural Affairs for 1865 vindicates the reputation of its predecessors and the claims of its editors. It should be the companion of every farmer and gardener, practical and amateur. This is the 11th year of its issue, and the set must be almost a complete agricultural and horticultural library in itself. The number for the new year is full and valuable on rural architecture, and pruning and other care of orchards, with illustrations that make the text plain to him who reads it.—*Springfield Republican.*

Foreign Notices.

Soaking and Coating Seeds.—A Frenchman has made a great discovery, which is announced with all the laudation and display generally attending such events in that enthusiastic country. It "simply consists in the previous preparation of seeds by steeping them in a certain liquid, which imparts an extraordinarily revivifying force, and enables them to contend successfully against all the evil influences to which they are subjected after being committed to the earth." This liquid "forms around the grain a thin covering of quite a peculiar nature." Its use is to obviate entirely the necessity of manuring the land; and, "by the outlay of a few francs, a small barrel of the liquid can be obtained, which can be easily carried to any desired spot, and which is sufficient to prepare seed for the sowing of a hectare (2½ acres) of land." The experiments narrated are of course greatly in favor of the new process. "Six landowners residing at Libourne have also issued a certificate proving that for more than ten years M. Boutin, the discoverer, has cultivated his land with the aid of his solution without manure, that each year he has obtained magnificent crops on a soil by no means fertile, and that he has even raised many wheat crops in succession."

Of course there may be some foundation for all this, and we should not be greatly suprised if the wonderful protecting and fertilizing "liquid" described was akin to the diluted *tar* often used for the same purpose in this country, and of which Mr. DICKINSON of Steuben county, was so strong an advocate. But that anything of the kind should be more than a partial and very incomplete substitute for the use of manures, appears to be problematical in the extreme.

The Suffolk Polled Cattle.—This breed, indigenous to the counties of Suffolk and Norfolk, possesses many valuable characteristics, although never introduced, as a pure breed, into this country. Its milking qualities are highly rated, and it possesses also much aptitude for fattening and fair size. Mr. G. D. BADHAM, who has given much attention to the subject, answers an inquiry in the Mark Lane Express, with the following description: "The sort of animal that we must all expect in future to see, in this class, must be as nearly as possible the color of the Devon: the character of the head is quite different, and bears a strong resemblance to the polled Galloway, from which no doubt they originally sprung, but with a *salmon*-colored nose like the Devon. Occasionally pure-bred animals will have two oval-shaped, hairless spots, occupying the usual site of slugs; but these are no proof of the animal being cross-bred: the form of the head, general development, and color being the true characteristics of the breed. Red may not be the original color; and, from what I have heard from very old breeders, I believe they were dun, but without white, except at the tip of the tail and sometimes under the flank."

Mixing Feed of Different Kinds.—The Irish Farmer's Gazette remarks in the course of an editorial on the increased production of meat:

"In fattening live stock, a mixture of food is desirable, as it produces more effect than when the same kinds of food are given separately. Thus it has been found, in the course of certain comparative trials, that while it required 8 lbs. of beans, or 6 lbs. of linseed, to produce 1 lb. of flesh when the beans or linseed were used separately, yet only 3½ lbs. of *mixed* beans and linseed produced 1 lb. of flesh, the effect of the mixing of these kinds of food being to double their value as flesh-producers; so that the 2 lbs. of mixed oats and cake given by the gentlemen we have mentioned in an early part of this article to their cattle would seem practically to be about of as much value as double that quantity of oats or cake, when either is given alone."

EXPERIMENTS WITH POTATOES.

EDS. CO. GENT.—I notice in a late issue of your invaluable paper, C. O. N. of Palmer, Mass., wants to know the comparative yield of *Goodrich's seedling potatoes* with other kinds. I have grown Garnet Chili, Copper Mine, Pink Eye Rusty Coat and Cuzco for some years past. In 1862 they were planted alongside of other varieties, all receiving the same culture, and the ground and crop accurately measured, showing the following results:

Variety.	*Rate per Acre.*			
Prince Albert,	88	bushels	6	quarts.
Jersey Mercers,	91	do.	18	do.
Nova Scotia Mercers,	163	do.	20	do.
Peach Blow,	114	do.	3	do.
Garnet Chili,	120	do.	3	do.
Copper Mine,	199	do.	21	do.
Pink-Eye Rusty Coat,	216	do.	6	do.
Cuzco,	240	do.	7	do.

The result, both in yield and quality, was so satisfactory, then and since, that I have adopted the Goodrich varieties as my chief crop.

The past season here has been very unfavorable for potatoes, yet the Goodrich varieties have done well. The severe drouth stopped the growth, and matured all early varieties prematurely, while late varieties were started into a second growth by the early autumn rains, making them ill-shaped, and not as good in quality as formerly.

We have not been able to get such a yield of Garnets as have been reported in New-York State. It is the poorest yielder of the whole with us, but the quality has improved so that we now consider it nearly or quite first rate. We consider the Copper Mine about the best, Rusty Coat next, *all things considered.* The latter an excellent keeper.

The above three are valuable acquisitions, and fast superseding the Mercer, Peach Blow, &c., here, on account of better yield, and less liability to disease.

The Cuzco I consider a good second rate potato, though some persons place it much higher—think it safe to say it holds the same relative position among potatoes that the Wilson does among strawberries. For productiveness it exceeds any variety I have ever tried. A friend in Ohio reports me a yield of 90 bush. this season, the product of four tubers I gave him in the autumn of 1862. A gentleman in Indiana, to whom I sent a barrel last spring, reports the following:

Yield from 1 bush. Chilis,	10	bushels.
Yield from 1 bush. Cuzcos,	32½	do.
Yield from balance of bbl. of Rusty Coats,	15	do.

These were planted on an old meadow, without manure, the stiff sod and dry season being unfavorable to the best results.

A farmer in Morris Co., this State, reports 400 bush. per acre of Cuzcos, on inverted sod, and thinks them more profitable at 50 cents than Mercers at $1 or over.

Peach Blows, Prince Alberts and Mercers are rotting very bad. One man stored 200 bushels of Mercers, and doubts if he has enough sound ones for his own use.

The Goodrich varieties are but little affected—more than I ever saw before, though not exempt, as claimed by some. Would like to see the variety that was.

I have just obtained some of Mr. G.'s newer seedlings for trial, and hope among them to find one to supply a long existing want, viz., an *early potato, of first rate quality, large yield, and free from disease.*

Montclair, N. J. E. WILLIAMS.

Hints on the Preservation of Grain.

Messrs. Editors—The undersigned has had ample opportunities to notice the loss or damage of corn and other grain, stored in the warehouses of Buffalo, Washington, and farther south, to justify him in calling public attention to the subject. Few know the waste of grain by government agents acting for the large federal and confederate armies. Hundreds of thousands of bushels of corn collected by the rebels in that part of Georgia where Sherman's army was at last accounts, were a little worse than lost during the first two years of the war; for much of this grain was fed to large droves of government hogs, and in a condition that poisoned them, probably by a poisonous fungus on or in the grain. Corn is so hygroscopic that it is much more difficult of preservation in the warm and damp atmosphere of the south, than in the colder and dryer air of the north, and therefore the southern climate is the better section in which to learn from experience and observation how to keep this grain in a sound condition the year round. Some two years ago, while looking at a mass of nearly rotten government corn, a young man remarked to the writer: "Dr. Lee, if your teachings in the State University on the subject of preserving grain, and other articles of food, had been known to government agents, this would not have happened." The reply was, that science is slow in reaching and lodging in the heads of politicians and grain speculators.

Grain will never be properly or safely preserved in our American climates, until we adopt the practice of Julius Cæsar and other Roman generals, who led large armies to the conquest of many nations, and mostly in hot climates, where grain is kept with the greatest difficulty. The system was *old* in Egypt when Joseph stored up bread-corn in seven years of great fruitfulness, to feed unknown millions during seven years of blight and sterility.

It was probably old in Persia, when Cyrus found out ways to march two great armies into the city of Babylon at once, and nearly destroyed it; and yet this system is hardly known to one grain-grower in a thousand in this land of books, schools and colleges. Spain retains some of the old Phœnician ideas and practices; for Bonaparte found these well-filled and sealed underground store-rooms, in which wheat or maize might be kept uninjured a thousand years. Julius Cæsar built granaries in Spain of blue limestone and Roman cement, as impervious to air and moisture when closed, as a glass bottle hermetically sealed. These rock granaries—huge stone jugs—are as perfect now as they were some 2,000 years ago. Wheat and other grains were dried perfectly in the sun just before being put up and sealed from the air. The mouth of the granary or jug had a stone stopper and that covered with good cement and pitch. How could dry wheat or corn ever begin to hurt in so dry an atmorphere? Without knowing anything about chemistry and the laws of germination, fermentation and decay, the ancients learned very early how to store away and preserve indefinitely the raw material for making their daily bread.

Brick, burnt nearly to vitrification, are as impervious to air and moisture as glass. Indeed glass is made of clay in some places, and in Syria, Babylonia and Persia common farmers dig pits in the ground, like a dry well in the Southern States, and burned the bottoms and sides, and then used them for storing grain. A layer of dry straw covers the bottom, and keeps the grain from touching the sides, and when full the pits are covered tight. Many hide provisions and goods in the South in this way, to my knowledge. Southerners are learning many a lesson not taught in colleges, which their posterity will never forget.

Washington, D. C. D. LEE.

Importance of Foresight to the Farmer.

Foresight in agricultural operations is indispensable to prosperity, as much so as in any other pursuit on earth. It requires but very little penetration to see beforehand how essential it is to make the most of every favorably season to clean and cultivate the land; yet the autumn, which is proverbially the finest quarter of the year, passes by, and not one farmer in ten makes any preparation for spring crops; although year after year they are inconvenienced and are continually behindhand in planting on account of the wet weather, which usually prevails, and hinders them from doing what, in many instances, might have been better done in the dry, cool and bracing time which precedes the winter. Stone picking, draining and a great deal of plowing can be much easier got through when the soil is sound to travel over, and any piece of naturally raw, wet land, drained now, and the surface cleared of all weeds and refuse matter, and then well plowed, would produce a better crop by not plowing again, but merely cultivating by harrowing and drilling the seed in the first few fine days which occur after the frost and snow break up. All ground intended for any kind of root crop ought to be plowed up deep against winter, for a soft and mellow soil must be obtained; otherwise disappointment will surely result; for if land which has not been exposed to the action of frost, or to the sun and air, and wetted and dried till brought to a perfect tilth, is planted, the first spell of drouth will draw all the moisture out of the soil, and the bulbs will cease to grow, and becoming tough and almost as hard as sticks, will not start to grow any more, and Swedish turnips will run to long necks and be worthless, the common turnips become bitter, and in short, neither beets, carrots or any of the root species, will flourish if on raw, cloddy ground; and if it is so in the spring, either through not having laid dry and been exposed to the action of frost, or through having been trodden and mauled about while wet, no amount of harrowing and rolling will produce the fine mould absolutely necessary, before it is too late, for aught but the common turnip, and perhaps for that also, for the clods though crushed and broken will still be harsh and hard, even if no larger than beans or peas. By looking forward, and keeping all the work beforehand, as much as possible, there is not any need to tread the land when too moist, and by making every improvement, and doing all that is possible in the beautiful weather of the American fall. Crops would be amazingly increased, the farmers astonishingly enriched, and the whole community benefitted by the extraordinary greater amount of produce brought to market, and the wealth of the country at large would double, treble and quadruple by the surprising increase of dairy produce, meat, corn, &c., that this better system of cultivation would allow of being exported. J. B.

Seasonable Hints for the Housewife.

Sausages.—Take fat and lean meat, cut off the rind, and season as follows:—To twenty pounds of meat add eight ounces of sage and a teaspoonful of ground black pepper. Stir well with the hand; pack in tin pans; when full dip a cloth the size of the top of the pan in melted lard, and spread over the pans, and turn them together, and place them in a cool place. The leaf fat should never be used in any kind of sausages under any circumstances; it is a great waste of lard, and would make the sausages too greasy.

Lard.—The leaf lard should be tried separately from that which comes off the inwards, and kept for summer use. One year ago we tried our leaf lard, and when cooled sufficiently, strained into tin pans and let it stand until cold enough to run; turned it into a tub having a close cover; when entirely cold spread a sheet of white paper over the top of the lard, and placed on the cover, and set in the store-room up stairs. The first of May removed it to the cellar and set it on a shelf four feet from the ground. (If the tub should stand on the cellar bottom, the lard would mould.) Took out the last of the lard the other day, preparatory for this winter's lard, and found it as sweet as the day we placed it in the tub. Lard should always be tried in an iron vessel, and never salted.

Curing Hams.—After trying various ways of curing hams, we prefer the following as cheapest and best:—As soon as the animal heat is gone, rub the hams thoroughly with hot salt, pack them edgeways on a large table in the cellar, let them stand three or four days and repeat the process, and let them stand as much longer. Then smoke and hang them in a cool place. If not used up before warm weather, cut the ham in slices the same as for frying, and fry until nearly done. Pack in a stone jar and turn the fat fried out over the slices, having as much as two inches thick over the top of the meat. Cover the jar air tight and set in the cellar.

Salting Pork.—After the bone and lean has been removed from the broadside, cut in pieces about ten inches square. Place a layer of salt on the bottom of the barrel, and then a layer of pork (with the rind down) and so on until the whole is packed. After standing a day or two make a strong brine, and turn over the pork enough to cover it. We have always cured our pork in this way, and have never lost any; it has kept perfectly sweet.

To Prepare Beef for Drying.—Cut the piece lengthwise of the grain, not too large or too small, rub each piece separately in cold salt, and place it in a large wooden bowl or dish-pan—or in any suitable vessel that will hold the beef; and then another piece, and so on until it is all nicely packed; cover it up, and set in a moderately warm place; let it stand a week, then smoke it, and lay a few pieces of it at a time on a dripping pan (after it has been well drained) and set in the oven, and let it remain until just heat through; then hang up around the stove and dry as quickly as possible.

Buckwheat Cakes.—Buckwheat cakes are better to be mixed with a part milk, even if raised with yeast. But the following mode is preferred in our family: Take 1 quart of buttermilk, 1 quart of water, a teaspoonful of soda, and a little salt; stir in flour sufficient to make a thinish batter, and let it stand over night. In the morning add a half teaspoonful of soda, and flour to make it thick enough to fry. Bake on a hot griddle until a nice brown. When done the cakes should be placed in a dish that can be covered without the cover resting upon them, as it has a tendency to make them heavy. A large turreen is the best dish to place pancakes into.

Fried Cakes.—One teacup of thick sour cream, 2 teacups of butter or sour milk, 2 teaspoonfuls of soda, a teaspoonful of salt, and 1 teacup of sugar; mix well. Roll half an inck thick; cut in strips, twist and fry in hot lard until done; season with ground cinnamon or spice. The cakes will be the better for standing an hour or two, after they are mixed, before frying.

In conclusion we say to the friends of the Co Gent. that we make the same offer we did in a former number, that we will send over 170 of our family recipes, free of postage, for 30 cents. Address

Fabius, Onondaga Co., N. Y. Mrs. E. A. CALL.

THE CHESTNUT--ITS CULTIVATION, &c.

The chestnut is one of the most majestic trees in the American forest, remarkable, like the oak, for its broad extent of shade. In some parts of the country it is one of the most common standards in the field and pasture, having been left unmolested on account of the value of its fruit, and the comparative inferiority of its timber. The foliage of this tree is dense and flowing, and peculiar in its arrangement. The leaves are clustered in stars from five to seven, on short branches that grow from one of greater length. Hence at a little distance the whole mass of foliage seems to consist of tufts, each containing a tassel of long pointed leaves, drooping divergently from a common centre. The flowers come out from the centre of the leaves in the same manner, and by their silvery green lustre give a pleasing variety to the darker verdure of the whole mass. When in full bloom, whether in the field or forest, no tree surpasses it for beauty and grandeur. It is of rapid growth, hardy, and flourishes in almost any soil.

There is no difficulty of raising the chestnuts from the seed if proper precautions are taken in gathering, preserving and planting the seed. The chestnuts which are designed for planting should be gathered as soon as they are fully ripe, and the largest and plumpest should be selected. They should be immediately placed in mould or sifted earth, and put away in a cellar, or buried in the ground, out of the way of the frost, rats and children. Be sure to use earth enough about them to prevent them from heating. When the spring opens, prepare a piece of ground by pulverizing and plowing it deeply, and plant the seed in rows three feet apart. They should not be covered deep, else they will rot in the ground. Half an inch of covering will answer every purpose. If you wish to have them grow straight and thrifty, they must be well hoed after planting. They may remain in the nursery row two or three years—the tap-root should be cut with a sharp spade. They will then throw out side roots, and will endure transplanting the next year all the better. There is no difficulty in transplanting chestnuts if the tap-root has been cut off a year or two before.

Many people complain that their chestnuts are stunted in their growth, or that they grow crooked. This may be remedied by cutting them down even with the ground so soon as they have become stout enough.

They will then throw a nice straight shoot, that will grow very rapidly, and very little, if any, time is lost in making a large tree. The whole nourishment from the roots must be thrown into the one shoot by cutting or rubbing all others off.

There is a variety—the Spanish chestnut—the fruit of which is much larger, near the size of the common horse-chestnut, which flourishes in this vicinity, and the fruit readily commands from $2.50 to $3 per bushel. Young trees of the Spanish chestnuts may be obtained at almost all of the nurseries. A few chestnuts may be set around in the borders of the pasture-fields and cultivated with profit.

Poughkeepsie, N. Y. C. N. B.

THE CULTIVATOR.

ALBANY, N. Y., JANUARY, 1865.

☞ The New-Year once more invites the mutual interchange of congratulations and kind wishes. As some one has lately remarked, it is a sort of common birth-day for us all: we recognize at its approach that guiding Hand which directs the planet in its course and aids the sparrow in its flight; we look again to the fulfilment of the great promise that seed-time and harvest shall not fail.

"The resources of our country," as it was remarked in the leading editorial of "The Cultivator" on the first of January one-and-twenty years ago, "are every year more and more developing themselves. Spreading over an extent so vast, embracing so many varieties of soil and climate, partial failures of crops may indeed occur; but such a failure as shall seriously affect the aggregate amount, or endanger the bread of the nation, is scarcely possible." If this was true, when written, still more applicable is it now. He who should have prophecied in 1834, when this paper was established, or in 1844, when the above extract appeared, the growth and development which characterize our agriculture, and all our industrial interests, our population and our prosperity, in these closing moments of 1864,—would have found but few to credit the augury. And never had we greater reason for confidence that while contingencies of season may somewhat affect the grand total of our products, still there will be "enough and to spare"—no fear of famine, no cries of want, no serious prostration of our producing capacity. "It is in the power of the farmers of this land," that article continued, "to convert it into one vast garden, to make it the granary of the world. Let us see that while prosperity advances, the mind does not suffer; that while riches increase, the man, the immortal, is not neglected. We have been anxious to convince all, that knowledge—knowledge of mankind, of himself, and in particular of his professed business, was essential to success in any pursuit, and that ignorance and successful agriculture were incompatible."

We may say with truth that the generation to whom these words were addressed have now nearly passed away. Others are holding the plow, in the fields they used to till. Others are driving the mower and reaper, where they swung scythe or sickle. In States that were then unbroken prairie, are blooming the gardens of many a happy home; and New-York and New-England, and old England and Europe, are receiving millions of bushels of wheat, and pounds of salted meats, from a territory in which the December blasts were then unmingled either with the smoke of cities or the breath of locomotive and steamer.

But, in the meantime, has that progress been effected in "converting this land into one vast garden," which we might have hoped? Does the new generation that has arisen, manifest that determination to improve, that thirst for a wider and deeper knowledge, which would be anticipated as the means of acquiring knowledge have multiplied? With all the evidences of more intelligent practice and more efficient labor which we trace as the years go by, can we yet be sure that our Agriculture has made strides as great as those which have marked the history of other pursuits, and our advancement in population and wealth?

Such questions as these are appropriate for the opening year. They should receive the candid consideration of all thinking men who see, in this great Art to which we are devoted, the mainstay of our national strength, and the fountain-head of our commercial and mechanical thrift.

We hope, with the present number, to renew our intercourse with all those to whose homes this sheet has been a monthly visitor during the past year. To them we extend our thanks for their past countenance and many favors, and the assurance that nothing shall be wanting on our part to render the acquaintance as pleasant and profitable for them in the future as we trust it has been in the past. And to the thousands of new friends at whose firesides this may be our first introduction, we offer a no less sincere and cordial welcome. To go back to the pages from which quotations have already been made, "we feel grateful to all who promote the circulation of our journal, because in that circulation we think we see proof that agricultural inquiry is extending, and that amidst the crowd of competitors for public favor, and of co-laborers in the broad field open for the diffusion of agricultural knowledge, The Cultivator still retains its high place in the affections of the tiller of the soil."

In conclusion, we invite attention to the statement of Terms, etc., upon the last page, and solicit the co-operation, during the first months of the opening year, of all who are inclined to reciprocate our Happy New-Year for them, by doing something to render it a happy year for us.

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Massachusetts Agricultural College.—Judge French, long and favorably known as an agricultural writer, author of "Farm Drainage," formerly corresponding editor of the New-England Farmer, and for many years a more or less frequent correspondent of our own, was elected President of this institution at a meeting of the Trustees, Nov. 29th. The selection is an excellent one, and our friend will please accept our best wishes for his entire success in the new and arduous field of labor now opened before him. We trust the arrangements to be made, are such that he may devote his whole energies to the cause, and are confident that we need not bespeak for him the hearty co-operation o the Board over which he is to preside, and of the agriculturists of the State.

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Cochrane's Farm Book-Keeping.—The advertisement of this excellent work has created a considerable demand, and we have now ready a new supply of the blanks—Ledger and Day-Book, which are sufficient to record a year's transactions upon a farm of ordinary size—price, by mail post-paid with Manual of directions, $3.

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Agricultural Societies in War Time.—To show whether the Winnebago (Illinois) County Agricultural Society is, or is not, in a prosperous condition, the Secretary states that its Treasury was $7,000 in debt four years ago. Nearly a thousand dollars of additional real estate has since been purchased, and $1,600 will cover its entire indebtedness to-day.

The Annual Register for 1865.—All orders received in advance of publication have now been filled, and those sent by mail should have reached their destination before the publication of this paper.

The table of contents advertised, although not including several of the closing chapters in the ANNUAL REGISTER, is sufficient to show the principal articles, and nothing farther need be said except that those who have already examined it, do not hesitate to speak of its character as comparing most favorably with that of any previous Number,—which is perhaps the highest compliment it could receive. We are now able to supply it singly or in quantity with promptness, and shall be obliged to any of our readers who feel disposed to bring its merits to the notice of their friends. Clubs for either the COUNTRY GENTLEMAN or the CULTIVATOR for 1865, entitled also by our published terms to receive the ANNUAL REGISTER, will be furnished with it at once, on receipt of their subscriptions, without waiting for the opening of the new year.

Thatching Buildings.—A gentleman from Iowa writes me, inquiring as to thatching buildings, requesting an answer through the COUNTRY GENTLEMAN. When abroad I saw frequently the thatched buildings, stacks, &c., and many of the buildings must have had the covering on for very many years, and it was still useful as roofing. The manner of putting on the thatch is this: The straw should be fresh and sound, without bruises if practicable. Wheat straw is best for the purpose, though rye is used where wheat cannot be had. When long straw is made use of, the operator begins at the eaves, or bottom of the roof, depositing it in handfulls in regular breadths, till the top is reached—the different handfulls being so placed endways as to overlap each other, and the upper ends being constantly pushed a little into the bottom parts of the sheaves. In this manner the operator gradually proceeds breadth after breadth, till the whole roof is covered, which is usually done to the thickness of *four or five inches.* To retain the thatch in its place, short sharp-pointed sticks are occasionally thrust in, in a slanting direction upwards—but as the water is apt to follow the course of the sticks, it is a better practice to make use of ropes or twisted straw for the purpose, and the thatch carefully prepared and secured, will last for a long time. This is a brief outline of a thatch upon a stack or roof of building. The inquiry is made, how long will a thatched roof last? If made complete, five inches thick, and carefully attended to, it will last as long as the wooden erection which it covers. I inquired a few days since of an English gentleman from Canada, as to the durability of thatch roofing in Great Britain—he said *they will last for ages.* Where straw is as plenty and cheap as in Iowa, I should think a thatched roof a good investment. J.

Plowing and Plowing Matches.—In going to get a glimpse of the plowing match at our State Fair at Rochester, we met at the border of the field a Canadian farmer just turning away with a friend, in great disgust, and earnestly asking him "whether they called *that* plowing in New-York?"

The incident is brought to mind—together with the undoubted fact that the standard of good workmanship in the performance of this operation, is far too low among us—by the numerous reports of plowing matches which come to us at this season in every issue of our Canadian exchanges. The papers are full of them. About a dozen are reported in the last number of the Canadian Farmer, some under the auspices of county societies, others conducted by associated towns, and several by single towns—all attracting considerable competition and large attendance.

It is by such encouragement as this that good plowing can be promoted here; and if our County and Town Societies were more awake to the means of usefulness they might command, and more active in the efforts they put forth—they would find a legitimate field of exertion in this and other similar directions which is as yet but poorly occupied, and too often, we regret to say, entirely over-shadowed by far less appropriate or serviceable undertakings. We crowd everything into a few hours or a single day at the "Annual Fair," and then all interest in the Society is lost until another year comes around; indeed we are fortunate if the "Fair" itself does not go mostly into the hands of the horse fanciers. The chief Show of the year should be strictly agricultural, and the Canadian system of plowing matches, turnip matches, and so on, at other times, is one certainly worthy of imitation.

Statistics of Agriculture in Illinois.—It is gratifying to perceive that progress is manifesting itself so widely in the interest excited by this important branch of investigation. WILLARD C. FLAGG, Esq., of Madison County, Illinois, sends us the Blanks prepared for the collection of Agricultural Statistics, in that, and hereafter in other counties. All the different crops are included, in a systematic way, horticultural as well as agricultural; animal products are very completely classified, and other columns are devoted to the number, value and material of the houses, barns and stables annually erected, and the extent of fencing carried out, whether rail, board or hedging. It is difficult to suggest any point in which these schedules can be rendered more complete; indeed such suggestions can only arise from experience in their use. They seem to cover *the whole ground*, and in about the manner in which we may perhaps ultimately hope to have the farm and orchard and stable statistics of every State, yearly gathered in. These schedules include *one hundred and twenty columns*, in which information is called for.

If we were to hazard any criticism whatever, it would be to repeat the query that occurred to us when similar schedules were prepared in our own State—namely, whether in view of the difficulties attending the inauguration of an annual system of collecting these statistics,—it would not promote the success of the endeavor at first somewhat to *reduce and simplify* the figures and facts sought—omitting much that may be hereafter inserted when the system is once fairly established, and only beginning with the leading staples concerned, and about the importance of which all are agreed. Others have been of the opinion that it will be as easy to get at all the minor points at once, as it would be to confine the schedules as above proposed. It is certain that the mode of collecting statistics adopted in this State has *not* succeeded; but whether the failure is in any degree owing to having attempted too much at the outset, we cannot undertake to pronounce. We are eager to see an entering wedge inserted, and, continuing the comparison, should hope before the lapse of many years to make this wedge a large and effective one—but from motives of policy we might be inclined to start with getting in the little end first, and to make that as pointed and concise as possible.

Death of Richard Booth of Warlaby.—Many will learn with regret, says the North British Agriculturist, Nov. 2d, that this distinguished breeder of Short-Horns and most estimable gentleman, who has been confined to the house for about two years, died on Monday the 31st ult., about two o'clock.

Devon Cattle.—Mr. WALTER COLE, Batavia, who took the first prize on Devon bulls at the recent State Fair at Rochester, has now purchased the bull-calf "Shakespeare" from the herd of ARTHUR GILMAN, Lee, Mass.

"How to Get a Farm."—A discussion was for some time carried on a year or two ago, in the columns of the COUNTRY GENTLEMAN, on the above question. It elicited the experience of many of our correspondents, and included much that was both instructive and entertaining, either to the practical farmer or to the citizen desirous of becoming one. Indeed, so great has been the interest felt in the subject, and in the views of it that were thus brought out—that the intelligent author of "Ten Acres Enough" has been led to prepare a volume about it—based upon and affording a *resume* of the discussion referred to, and summing up, together with it, a review of the more prominent openings for agricultural enterprise which are now attracting public notice. His previous work has been a great success, and the present* appeals to quite as wide an audience, and can scarcely fail to be received with an equal welcome.

The readers of this paper have a peculiar interest in it, as carrying on and bringing to their appropriate conclusion the arguments and statements first published in our columns. And although we believe our subscribers to be, as a whole, quite as permanently established and conservative as is possible for Americans—undoubtedly there are those among them wide awake for some of the new openings which this volume describes, and others who have friends desirous of obtaining just the sort of information it presents. We cheerfully commend it to their notice.

Aside from its other contents, the history of the Homestead Act is given, together with its provisions, and "numerous successful experiences of many who, though beginning with little or nothing, have become the owners of ample farms."

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Grape Literature.—A correspondent in Riley Co., Kansas writes:

"I have been engaged for some years in testing the different varieties of grapes in our climate, and have taken half a dozen agricultural journals for the purpose of getting information upon that subject, but really there is so little said upon the subject that I will try others. There is no subject connected with agricultural industry of such importance as that of grape culture, upon which the mass of the people are so ignorant. Nor is there any branch of agricultural industry that is now claiming the attention of the million, that the people are as anxious to obtain information upon; yet if most of the editors of agricultural journals give a single column upon the subject, they appear to think that their readers desire no more. The very fact that so many queries are propounded to editors, ought to be evidence of the great desire in the public mind for Grape Literature."

Our correspondent goes on to argue that there ought to be at least one, if not a dozen Journals in the United States (and thinks they would be well supported,) devoted exclusively to the Grape. While agreeing with him entirely in its importance as a fruit of general use, and intending fully to give it at least its due proportion of space and attention, we cannot but differ with him as to the number who consider it a matter of supreme importance, or who would support a periodical devoted to this subject alone. There are several good treatises, among which we may mention the recent work of Mr. FULLER, which cover the ground of its culture very ably. Those who are conversant with our agriculture and horticulture, know that in both there are periods of great excitement on particular subjects, which lasts a little while and then dies away. The editor of a Journal who takes advantage of such periodical fashions or manias, to pander to them by fanning the flame,—to give up everything else and follow them mainly or alone—incurs the serious responsibility at least of being likely to mislead the public as to their real importance, relatively to other matters, and forgets that his duty is equally concerned with all. Allowing for the Grape everything our correspondent says in its behalf, we yet doubt whether its importance, pecuniarily or as a matter of luxury, (he speaks of the grape "for farmers' use only," and not for the large vineyardist,) exceeds or equals that of the apple; but no one thinks of an "Apple Grower's Journal." We are of course glad to furnish all the information we can as to the culture of the vine, new varieties, &c., but should be indisposed to favor any undertaking, the tendency of which would be to lead farmers or others to spend too much money in this direction, with the almost absolute certainty of disappointment in the returns obtained. Any one who doubts the correctness of this position, has only to look back a few years when Dwarf Pears occupied a similar place in the public favor, or to review the often quoted history of the Morus multicaulis. Not that we think there is any immediate danger of a Grape fever, like the above, or like the Poultry fever, or the Sheep fever of 18— and of the present time,—or half a dozen other things that might be quoted,—but we cannot help referring to these precedents when occasionally an enthusiastic devotee of some particular kind of fruit, or stock, or farm product, urges its claims as overshadowing all others.

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Fruits to be Named.—B. R. HUDSON has sent us a few specimens of fruit for identification. Where but single specimens are furnished and sent several hundred miles as in this instance, it is difficult to speak with confidence, as they vary in appearance and flavor, and the peculiarities in the growth of the tree are unknown. A part of these are doubtless local fruits. Not being numbered we can only describe them briefly. One is a smooth, dark red apple, considerably resembling the Fameuse in external appearance and flavor, but without its white flesh. Another resembles in size, form and flavor, Ramsdell's Sweet, but differing in some points. A third is like the Sweet Russet of New-York, with very little russet on the skin, being a large, conical, spongy-fleshed, good, sweet variety. A fourth, a light, white-specked ribbed apple appears to be the Domine. The specimen of the pear was too much decayed on its arrival.

The first mentioned apple we think a valuable one, and we would like to examine it further.

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Smut in Indian Corn.—My crop of corn looks well in the field this season, but in gathering it I find a much larger number of blasted ears than in ordinary seasons—a black fungus growth taking the place of ears of corn. I think twenty per cent. not too large an estimate for the damage. My theory for the cause is, that it results from planting *old seed.* Last year our crop was nearly entirely destroyed by the frosts of August, and what was sufficiently matured for seed, had the germ destroyed by the extreme cold of January, so that we had to resort to the cribs of old corn for seed last spring. The consequence was musty old seed, and a crop of *smut.* I have ten acres planted with new seed from Indiana, and that portion of my crop is about as free from the blight, I think, as in usual seasons. Perhaps the extreme drouth is accountable for part of the damage, but I believe the cause mentioned above is chargable with most of it. The experience of my neighbors is, very generally, the same as mine. If I am correct in my theory, it is another argument for sound, *fresh* seed. W. P. H.

Vermillion Co., Ill.

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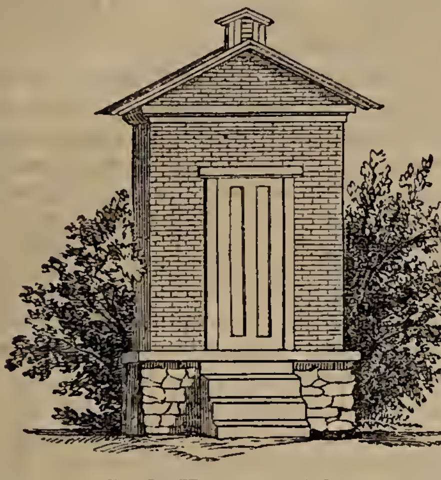
* HOW TO GET A FARM, AND WHERE TO FIND ONE: Showing that Homesteads may be had by those desirous of securing them. By the author of "Ten Acres Enough." 1 vol. 12mo. Cloth, $1.75. New-York: Jas. Miller, 522 Broadway. [See advertisement; the book is also for sale at this Office.]

Inquiries and Answers.

Smoke-House.—In answer to an inquiry for a plan for a smoke-house, we give the following from a former no. of our Annual Register:—"It is built of brick with a stone basement for ash-pit from the smoke-house above, and through which the ashes may be poured down. For smoking the meat, a fire is built on this ashes, where it may be perfectly controlled, and the smoke rises above. A ventilator surmounts the building, which is closed or opened at pleasure, to prevent the dampness so common otherwise with brick smoke-houses on the one hand; as well as a too free escape of smoke on the other."



Smoke-House and Ashery.

Converting Cider into Vinegar.—I have thirty barrels of cider which I desire made into vinegar. How shall I proceed to accomplish this soonest? Should the cider be left *whole*, or be reduced? and what else? Subscriber. [A skillful housekeeper, who has tried various modes, says that the best vinegar is made by exposing the barrels, not quite full, and with the bung out, to the air for one year. This forms the the best vinegar she has ever made. The common addition of molasses lessens its fine, clear character. She makes no addition of water. The barrels during summer should be placed on the south side of a building, where they may receive the heat of the sun. The long time thus required to manufacture the vinegar will be an objection to some, but all that is necessary is to keep a supply one year before hand. We would propose that our correspondent try other modes on a few of his barrels, such as adding a quart or a gallon of molasses, a similar quantity of vinegar, diluting slightly with water, adding strips or pieces of brown paper, &c.]

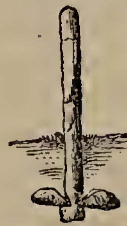
Blacking.—Can you not give your subscribers one or two good receipts for a good *shining blacking?* Why shall the farmer and his daughter be confined to tallow and grease for their shoes, when a handsome polish adds so much to the appearance of the foot? A Farmer. [Directions are given for forming a varnish of the character wanted, on page 122 of the Illustrated Annual Register for 1864. We have for some years used a similar varnish, varying slightly, but probably not materially, in its composition, and found it to answer an excellent purpose for boots and shoes, keeping them black, smooth, and in good order.]

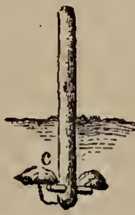
Spaying.—Will you or some of your correspondents, inform me through your invaluable paper, the mode of spaying animals? Perhaps there is some work you can refer me to—if so, where can it be had, and at what price? A Subscriber. *Benton, N. Y.* [We do not know of any work to refer you for plain directions for spaying cows. The subject was much discussed in The Cultivator, a dozen or fifteen years since, and in the vol. for 1849, we published full directions from a French veterinary surgeon, but they would be of little use to any one but a surgeon. One correspondent says it "is performed in the same way, and may be done by any person in the habit of spaying sows." If any one can furnish plain and practicable directions we shall be glad to receive them.]

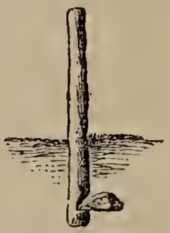
Spreading Horns. — How may I spread oxen's horns—by scraping on the inside or outside of the circle? C. *Morris Co., N. J.* [On the inside—that is, on the side opposite to which you wish them to turn.]

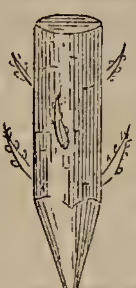
Michigan Lands.—Would you be so kind as to inform me through the columns of Co. Gent. what prospect there is in Michigan State to buy land and make a home for a man with small capital—one that is acquainted with backwoods life? Information on that point would be thankfully received by An Old Subscriber. *Essex Co., Mass.* [We submit the foregoing inquiry for the responses of our correspondents in the State referred to.]

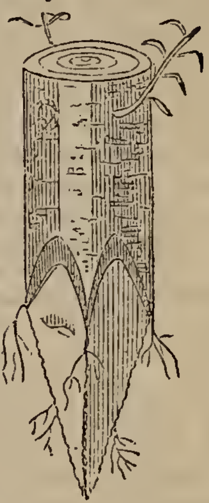
Securing Fence Posts from Floods.—I live in the valley near the Canadice Lake, and the inlet to the lake runs across my farm, and during high water my fences are floated off. Board fences will not stand, the land heaves so badly in places. Rail fence stands the best, but when the ground is soft the stakes will pull out, and off goes the fence. I think of driving stakes of yellow willow in every crook of the fence. Now when shall I do it and have them live? The ground is not wet but mucky—will do to plow, and raises large crops. Elms and basswood thrive well. D. B. Waite. [Fences may be secured from floods in different ways. If the posts are set in wide and deep holes, and notches cut in the lower end to receive the edges of broad flat stones, as shown in the cuts on page 154, Vol. XXII of the Co. Gent., filling the holes solidly on these flat stones, will secure the posts from being easily moved by water. If there is much current, it is desirable that the fence be placed as nearly as practicable in a line with the current. Willows, by taking rooot, will afford substantial security if the fence is attached to them after they have become large enough and well established. The cuttings of the willow may be inserted in the autumn or spring. Pieces an inch or more in diameter, may be sharpened at the lower end and driven into the ground. They will be more likely to live if they do not project much above the surface.]











Books.—Several inquirers are informed that the second volume of Todd's "Young Farmer's Manual" has never been published. There is a prospect that this, or another work from the same author, may appear during the coming year.—— We are obliged to state again, for the benefit of many who have apparently overlooked previous notices, that we bind the Annual Register in triennial volumes, under the title of Rural Affairs, and that the edition under the latter title is printed on *larger* and finer paper, so that it is quite impossible to bind the numbers of the Register, as they annually appear, in the same form. These volumes of Rural Affairs are now for sale (price by mail, post paid, $1.50 each) comprising the Annual Register complete, to and including 1863. The 4th volume will therefore contain the numbers for 1864–5–6 when issued; and complete sets to the present time, consisting of the three volumes now out and the numbers in paper for 1864 and 1865, are sent by mail for $5. We can also supply the numbers from 1855 in paper covers, at 25 cents each, excepting 1857, which is for the present out of print.

Goodrich Seedling Potatoes.—I observe the inquiry of C. O. N., in a late number of the Co. Gent. I have cultivated to some extent the Garnet Chili, the Pinkeye Rusty Coat, the Coppermine and Cuzco. The latter is by far the most productive. I have raised over an acre of them this year, and measured two different portions of a few square rods each. At the rate of the measured portions, they yielded five hundred and sixty bushels per acre, in both instances. The Garnet Chili has usually yielded about two-thirds as much. The two other varieties have not been usually quite so productive as the Garnet Chili, and are about as much so as the Prince Albert. The Cuzco is not generally regarded as first rate in quality—some like it well and others dislike it—but for feeding stock it is undoubtedly the most profitable of any sort. It does not appear to be much liable to the rot. J.

Root Crops.—Which do you consider the best crop on a limestone soil, turnips or carrots, —labor at present prices—where they are to be fed to cows, young stock and colts, or horses that are used but little? What kind of turnips would pay best? N. *Williamstown, Vt.* [On a shallow soil the turnip will succeed best; in a deep soil the carrot willl be most profitable. The round or flat turnip contains but little nutriment, consisting almost wholly of water; yet for the purpose of mixing with dry food in winter, and thus promoting health and digestion, it may possess much more value than the mere nutriment it affords. This remark will apply to root crops in general. The Ruta Baga or Swede is less watery, is worth more for feeding, and the crop is more uniform and reliable. It is valuable for feeding fattening cattle, but not so well adapted for milch cows, on account of the slight taste it imparts to milk and butter. The carrot, bushel for bushel, is more valuable than any kind of turnip, being excellent for feeding horses in moderate quantity, and, when fed to cows, producing rich, yellow butter, even in winter. In feeding all roots, it is important that they be clean, and the use of a root-slicer is valuable.]

Churn.—Can you tell me where I can get a really good churn, suitable for a farm where there are 7 cows milked on an average? I want one less laborious than the common upright dasher, if I can get it? G. M. *Ripon, Wis.* [Any of the revolving churns are easier to work than the upright dasher. We have found Kendall's simple churn, after several years, the easiest for common management, for a quite small dairy. The thermometer churn works on a similar principle, with the additional advantage of a perfect control of the temperature. It is probably the best hand-churn that has been long tried. Where manual labor is scarce, a tread-wheel worked by a large sheep (South-Down or Leicester,) will doubtless be found most economical, and has been tested in many places by years of trial. For this mode of churning, the common dash-churn answers well. All these churns are sold at the agricultural warehouses in our principal cities.]

Pear Blight.—Will you please give us your views through your valuable paper, at your convenience, of the cause of pear blight, and remedy, as it is very destructive out here. J. M. H. *Galena, Ill.* [The fire blight in the pear is a disease that has puzzled everybody without any satisfactory cause being assigned; and although those who have seen but little of it often think they have discovered the cause, yet the more it is investigated by cultivators, the more they are satisfied they know nothing about it. As a general rule trees which grow with unusual luxuriance are more liable to its attacks than such as possess moderate, healthy vigor. Some sorts are more liable to it than others—the Seckel nearly always escapes. When it attacks a tree, (which is indicated by certain portions or limbs dying suddenly, and becoming black,) the diseased parts should be immediately cut off at some distance below, and burned or buried. This will not always save the tree, but it may as well be cut to pieces as to perish wholly by blight and spread to others.]

Alderney Cattle.—Please inform a subscriber what an Alderney heifer will cost, either one or two years old? How much butter will they give per week in their prime? Will it pay to buy an Alderney instead of Short-Horn for a butter cow, if the cost is double for the Alderney? I would like to get the best cows for butter. My farm is not rich, but affords good pasture and fair hay, and is too hilly to grow corn much. J. P. G. *H. Co., Kentucky.* [The price of Alderney heifers varies very much here at the East with the particular merits, proven or supposed, of the individual animal—its age, etc. Your best way would be to correspond with parties advertising Our opinion of them, although very high, is not such that we should care to pay double the price of a Short-Horn, unless under peculiar circumstances. Very large products of butter per week from the Alderneys have been published, but these statements are of course much above *the average*. Their milk, however, is very rich, and makes superior butter—they are therefore better adapted to localities in which there is a ready market from fastidious purchasers, who are willing to pay a "fancy price" to secure the very best, rather than where all butter of good quality sells at about the same price.]

Osage Orange Hedges.—Where can the "Osage Orange" plants or seeds be got at this time? A few years ago the "Osage fever" raged here, and owing to the want of attention the hedges were pronounced a failure by our farmers. In all cases where they were properly pruned they have done well, and are a "success." C. Y. P. *Terre Haute, Ind.* [The supply of Osage Orange seed was procured mostly from Texas. The rebellion cut it off. and hence few plants have been grown the last three years. If any one has plants or seeds, our advertising pages are open to them.]

Salt for Moles, &c.—One of our subscribers writes that he has found "that the sowing of refuse salt, a bushel to the acre, will drive off moles from land so treated, besides its excellent fertilizing qualities. Also, that Red Precipitate scattered on the scratches on horses, has been found an excellent remedy. I have used it for three years on a stud horse that is now 35 years old, and with success."

Keeping up a Small Farm.—What can a man do wtih a small farm, without being near a city where he can get manure to keep up his land? If he has a large farm, he can by clover and resting his fields and keeping stock, make enough manure to enrich a few acres every year, on which he can raise a paying crop. But this writing about small farms, *well tilled*, is like the people of old who could not make bricks without straw. C. L. *Pennsylvania.* [Our correspondent says he would like to hear from practical farmers on the foregoing question, and we "second the motion." Meantime he may find some very serviceable hints on the subject in the book entitled "Ten Acres Enough."]

Inventor of the Horse Rake.—I see in the November number of THE CULTIVATOR, that a correspondent of the R. N. Yorker, asks the name of the inventor of the "Revolving Horse Rake." The first horse rake that was used in this town, was made by EPHRAIM PERKINS in 1811. Mr. Perkins at that time owned a farm of nearly 400 acres, mostly in grass. The horse rake worked admirably, much in advance of the hand rakes. Yet Mr. Perkins' energetic and go-a-head mind was not content with the idea of stopping and backing up every time the rake was to be discharged, and he projected a rake to *turn over* without the horse's stopping, and CHARLES GOUGE made it the 13th day of July, 1811. Jervis Phelps, a Yankee pedlar who worked for Mr. Perkins, carried the model in 1812, to Pennsylvania. Mr. Perkins sold his farm to Mr. Henry Rhodes, the present owner of the premises.

Oneida Co., New-York. STORRS BARROWS.

Oats, Corn and Cob Meal for Horses.—Were I your inquirer, F. H. A., in your paper of Nov. 24, I should not sell the corn and buy oats for horse feed. I would not have the cobs ground, but would grind the corn fine—finer than is generally desired for table use, and mix with cut straw or hay, wet sufficiently to make the meal stick. I have fed cut and ground feed for several years, generally corn and oat meal, mixed in equal proportions by bulk. Last winter I kept my horses upon the orts of the cattle manger, cut and sprinkled with fine corn meal, with more satisfactory results than have been attained in former years. GEO. WILLIAMS. *Delta, Nov.* 26, 1864.

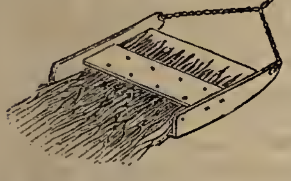
Salt Rheum.—I see an inquiry in your paper for a remedy for the cure of salt rheum. I would recommend Massena Springs, St. Lawrence Co., N. Y. I have resided here over forty years, and have known very many inveterate cases permanently cured. W. W. PADDOCK.

Poultry.—As far as my experience goes with poultry, it does not do to confine them too closely, nor put a large number into small quarters. I find it the most profitable to give them a tree to roost in, in summer, taking down all the roosts from the coop in spring, as soon as the weather will warrant their roosting out, and replace them for the old fowls when they are moulting, after the heavy fall rains set in, and then let them take their choice as to the time of turning in. No nest boxes stationary built up, but half barrels and fixtures that can be taken out to give them a thorough cleaning, is my mode for nesting places, but not under their droppings. J. B. *Newark, N. J.*

Improving Sheep.—I wish to make inquiry through the columns of the Co. GENT., of the experience of your readers in regard to the best breed of sheep for this section, taking into account the long and medium wools only. I have a small flock of common stock, that I wish to *improve* by using a buck that would be the most likely to produce such a result. Others, no doubt, are in the same situation, and want light in this matter. I should be glad to hear from any one by letter, more particulars than could be communicated through the GENTLEMAN. W. H. BENSON. *Jamestown, N. Y.*

Onions and Carrots.—I have a light loam, gravel subsoil, and clay beneath that. The land is on the bank of a lake, some 15 feet above it. Will some of your readers tell me why my carrots and onions do not come up—as also the means of starting them? A SUBSCRIBER. *Ottawa Co., Mich.*

Seeding on Wheat—Hedge Plants.—I have a piece of wheat sown last fall; there was no grass seed sown with it, and it is now too late to sow this fall; will it do to sow clover and herds-grass on the wheat in the spring, and when had I better sow it—on the snow, or wait until it is off? Must I harrow it in? Where can I get Osage Orange and Buckthorn plants for hedges, and what is the cost? What are drain-tile worth? R. *Kalamazoo*, *Mich.*, *Dec.* 3, 1864. [It will answer well to sow the clover and grass seed in spring, and it will probably do better if the clover seed predominates. The usual practice is to sow on snow, or before the freezing and thawing process has ceased. This causes the seed to settle in the crevices and under the crumbing surface of the soil. If the season is favorable it will grow well. Probably a better and more certain mode would be to sow a little later, or when the surface has become dry enough for harrowing. Sow the seed and pass over the wheat with a light, very fine-toothed harrow, which will pulverize the top soil down an inch or so, cover the grass seed, and improve the growth of the wheat. A common harrow would be too heavy, and bury the seed too deep; but if no other can be had, harrow the wheat first, then sow the grass seed and roll it in with a roller. Very little of the wheat would be torn out by the harrow. Very little of the wheat would be torn out by the harrow. Brushing the seed in by means of a frame set with brush would doubtless do well, or with a fine harrow made by driving cut spikes numerously through a plank frame like the letter V, with the point foremost, the spikes forming the teeth pointing backwards a little, to prevent clogging and to pass freely over stones. The different modes here suggested may variously succeed best according to circumstances and the condition of the soil, and discretion must be employed. Osage Orange plants have been very scarce since the present war, which has prevented the importation of seed from Texas. We do not know where they can be procured. Buckthorn plants have been sold mostly by the principal New-England nurserymen at about $10 per thousand. Tubular drain-tile, two inches in diameter, which were formerly sold at $10 per thousand, now require $15 to purchase them—larger ones correspondingiy higher.]



Liquid Manure—Grafting Grapes.—I wish you would prepare an exhaustive article on the best plan for making liquid manure vats or cisterns; also the very best plan known for grafting grapes in spring or autumn. C. M. K. *Pittsburgh*, *Pa.* [We have not had experience with liquid manure vats, and would invite the experience of others. The cheapest and most durable are made of masonry, with hydraulic cement. With ordinary materials they should be secured from freezing, or the cement will scale off; but with the purest and sharpest sand, (found only in the regions of primitive rocks.) and the most perfect water lime, the Rosendale for example, a cement may be made that will withstand the combined influence of water and frost. In the practice of many farmers they find it most convenient to secure all the liquid manure by plenty of absorbents, such as dry straw, dry turf, or dry peat or mold. The manure is either applied in the composts thus formed, or spread in autumn for the crops of the following season. The best mode of grafting the grape, which has been extensively adopted by nurserymen, is figured and described on page 47 of the Illustrated Annual Register for 1865.]

Improving Old Meadows.—I have an old meadow of three acres that I wish to improve without plowing; how will it do to harrow well in the spring, sow grass seed, and put on the manure that I make the coming winter, say from eight head of cattle and a horse, spread and bush down? Please tell. A. S. *Sandy Hook P. O.*, *Newtown*, *Ct.* [The management proposed by our correspondent is good, and will doubtless succeed well; but it would be better, instead of drawing out the manure in spring, to draw it out during winter as fast as made, and spread it as finely and evenly as possible over the surface. The thaws and rains will carry the soluble parts into the surface soil, and render it twice as efficient and valuable as if spread in spring.]

Ditching Machine, etc.—I want a ditching machine for draining my land; it is high' rich upland, apparently dry enough, but I am told draining would still improve it. Do you know of any ditching machine, and where to be had? Will hydraulic cement pipe answer in stiff clay subsoil, and where can I get the inflated core to form it? A. E. T. *New London*; *Mo.* [We know of no ditching machine which we can recommend from the test of full trial. The best thing of the kind we have ever used is the ditching-plow figured and described on page 296 of the second volume of Rural Affairs. Cement pipe would doubtless do well in the stiff subsoil mentioned, but if formed of continuous pipe, would require perforations for the admission of water equal in the aggregate to the size of the bore in a length of two or three hundred feet. We are unable to furnish the desired information in relation to the core.]

Exterminating Ants.—I see in your number for Dec. 1, an inquiry as to how to get rid of ants in strawberry beds. They have never troubled my strawberries, but they have been very bad in my tulips and several other places, from which I have completely exterminated them by simply sprinkling the bed thoroughly with loose dry salt, which not only kills the ants, but, as you know, enriches the soil. A. *Hazelwood*, *O.*

Tape-worm in Sheep.—While dressing a sheep which I had attempted in vain to fatten, I found a tape-worm more than 17 feet in length. It was not in the stomach, but in the smaller intestines several feet below, and all in the space of about one and a half feet, expanding the intestine to nearly twice its natural size. Are tape-worms common in animals? P. *Delaware Co.*, *N. Y.* [For an interesting article on Tape-worms in Sheep, see Co. GENT. for March 17, 1864, p. 172.]

Cheese Factories.—*J. B.*, *Chicago.* You will find a chapter on this subject in the ANNUAL REGISTER for 1864, which you had better consult. The usual charge for manufacturing in this State is one cent per pound, but unless you can get your neighbors to pay considerably more than this, making up the milk of 120 cows could not be a very remunerative business. Three hundred is the lowest number you can probably start on with a reasonable prospect of success.

Ag. Reports—Fences and Gates.—Where can the Annual Report of the Commissioner of Agriculture be obtained? Also, what number of RURAL AFFAIRS contains article on farm fences and gates (particularly the last?) I have not been able to find it in the numbers received of you a short time ago. E. K. FREEBORN. *Easton*, *Ct.* [For Report of Commissioner of Agriculture, apply to the member of Congress from your district. He has a large number of copies at his disposal, and can send it to you under his frank. In RURAL AFFAIRS, vol. II, p. 271, you will find a full chapter on fences and gates.]

Turnip-Drill.—Can't some of the ingenious mechanics of this country get up a turnip seed drill that will sow two drills at a time, with a roller in front and another behind—the front one with a bulge of proper shape to fit in between the drills to keep all in place—to be drawn with a horse? I have seen Emery's and the Wethersfield drill; neither suit me, the operator has either to walk on the top of the drill or straddle it, which is very inconvenient, and with a machine with one wheel in the centre like a wheelbarrow, is very liable to slip off the top of the drill. My grandfather told me that such was in common use in Scotland seventy years ago--I mean the former kind or double one. W. S. *Sanilac Co.*, *Mich.*

Butter.—My butter has for some months become very hard indeed after it is churned, and granulates, making it almost impossible to spread. Can any of your subscribers explain or suggest a remedy? R.

FARMER WANTED.
One capable of taking charge of a Vegetable Farm. English, Scotch or German preferred. Address F. A. STOWE,
Troy, N. Y.
Dec. 22—w2tm1t.

VINELAND LANDS.
To all Wanting Farms.

Large and thriving settlement, mild and healthful climate, 30 miles south of Philadelphia by railroad. Rich soil, which produces large crops, and which can now be seen growing. Ten, twenty and fifty acre tracts at from $25 to $35 per acre, payable within 4 years. Good business openings for manufactories and others; churches, schools, and good society. It is now the most improving place East or West. Hundreds are settling and building. The beauty with which the place is laid out is unsurpassed. Letters answered. Papers containing reports and giving full information will be sent free. Address

CHARLES K. LANDIS,
Vineland Post-Office, Cumberland Co.. N. J.

[From Report of Solon Robinson, Ag. Editor of the Tribune.]

It is one of the most extensive fertile tracts, in an almost level position, and suitable condition for pleasant farming that we know of this side of the western prairies. Dec. 22—w&m3mo.

1865 THE ILLUSTRATED ANNUAL 1865
REGISTER OF RURAL AFFAIRS.

Number Eleven—1865.

This ANNUAL has now become one of the standard publications of the day, and the new Number for 1865, for the beauty and profusion of its ILLUSTRATIONS, and the interest and value of its contents, relating to COUNTRY HOMES, Country LABORS, and Country LUXURIES—to all the branches of Agricultural and Horticultural PRACTICE—will be a welcome and important addition in the Series.

Although the expenses incurred in its preparation have been unusually heavy, while the mechanical cost of its production has nearly *doubled*, but a very slight addition has been made to the price—barely sufficient to protect the publishers from actual loss. It will be sold for only

Thirty Cents per Copy.

ONE DOZEN COPIES FOR THREE DOLLARS,

At which prices we will prepay postage on orders sent by mail; and it will be considered a favor if our readers will do what they can to introduce it to the notice of their friends. All Newsdealers and Booksellers should be provided with a supply, and those not purchasing from us direct, can obtain it at our lowest trade rates from the AMERICAN NEWS COMPANY, New-York City; A. WILLIAMS & Co., Boston; W. B. HOWE, Detroit; JOHN R. WALSH, Chicago, or J. M. CRAWFORD, St. Louis. *If not for sale by your nearest Dealer in Periodicals, please cut out this notice and ask him to procure copies as above, or by mail from this office.*

Beside the usual Calendar Pages, presenting calculations for the three different parallels of the New-England, the Middle and the Border States, the following synopsis will partially show the chief subjects treated, and the ground covered in the ANNUAL REGISTER OF RURAL AFFAIRS for 1865—accompanied by about

One Hundred and Thirty Engravings.

I.—COUNTRY HOMES—TWENTY-THREE ENGRAVINGS.
1. General Remarks.
2. A Small Cottage—view and two floors.
3. A Bracketted Square House—view and two floors.
4. A Plain Country House—view and two floors.
5. A Convenient Dwelling—view and two floors.
6. A Large Farm House—view and two floors.
7. A Large Country House—plans of three floors.
8. A Village Residence—view, two floors, basement, and plan of grounds.

II.—MONTHLY CALENDAR for the Nursery, Orchard and Fruit Garden—TWENTY-TWO ENGRAVINGS.
1. Work for January—Preparations for the coming Year.
2. February—Root Grafting, Manuring and Pruning, Grape-Houses, &c.
3. March—Fruit Trees, Grapevines and their Propagation.
4. April—Transplanting, Setting Root Grafts, Draining, &c.
5. May—Strawberry Beds, Mulching Orchards, Evergreens, &c.
6. June—Insects, Managing Young Trees, Grape Houses, &c.
7. July—Layering Grapes, the Small Fruits, Budding, &c.
8. August—Orchard Treatment, Fruit Gathering.
9. September—Preparing New Gardens.
10. October—Transplanting, the Fruit Harvest, Keeping Grapes.
11. November—Treatment of Trees, Fruit Bushes, Grape Layers.
12. December and its Labors.

III.—PRUNING, its Principles and Practice—THIRTY-ONE ENGRAVINGS.
1. Young Trees at Transplanting.
2. Proper Time for Pruning.
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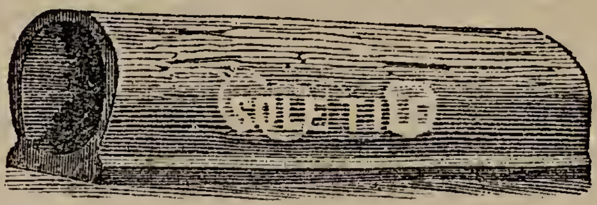

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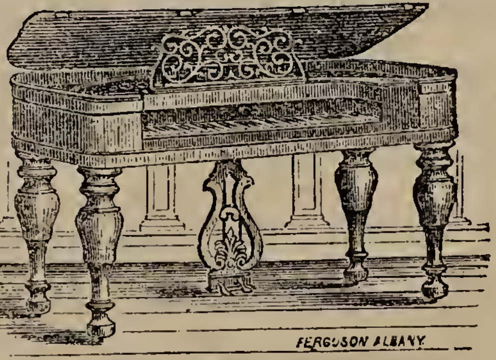

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The Cultivator & Country Gentleman.

Soiling Cattle---Sawdust for Manure.

I would like to see in the Co. GENT. more articles on soiling cattle. Can't you induce men experienced in that way of feeding stock, to give their mode of feeding, kinds of fodder used, their opinions as to its practicability, &c., on farms where all the land is capable of being plowed, and is worth too much to lay in pasture? I have purchased a seventy acre farm, naturally good land (worth $75 per acre,) in rather poor condition, by having the hay sold from it the past three years. It is now, and has been for quite a number of years, nearly all in grass. About fifteen acres of as good land as any on this place, has, for thirty years or more, been used as a pasture. It is now considerably run up to briars and weeds, and don't produce one-half the feed it should. What shall I do with such a piece of land? Can I afford to pasture it, or shall I put my cows up and soil them? I want to make manure to bring all my land up to what it should be; can I do it any other way but soiling? I have read J. Quincy, Jr.'s work on soiling, and other works, such as Ten Acres, which speaks in favor of that way of keeping stock; still I want to hear from men of experience, those that are now practicing that way of keeping their stock.

I have a good muck bed one and a half miles from my barn; will it pay to draw that distance? Pine, chestnut and oak sawdust, can be had near. Will it make good manure by using it as a litter for horses and cows? I. J. RUSS. *Pepperell, Mass.*

We should be glad to receive the results of experience on the subject of soiling, of a practical character—not the result of vague guessing, but of accurate trial. The great objection is the increased labor and attention involved—every farmer likes to turn his animals out where they will take care of themselves. The only way to obviate this objection is to show, by calculation or actual experiment, that a saving will result—if this can be done, thorough business men will adopt it. To assist in approximate estimates of this kind, we suggest the following: Soiling would obviate the necessity of interior division fences. On these 70 acres about one mile would be thus saved, costing, if made of posts and boards, about $1.50 per rod, amounting to $480. The annual interest on this is $33. The annual cost of replacing, if lasting 20 years, would be $28, or $61 saved annually in fences. Secondly, the increase in manure would be about as follows:—A well managed farm of this size should yield every year about 200 loads of manure. If doubled by soiling, it would yield about 400 loads. But this would not be a clear gain, as the ordinary droppings on pastures are valuable; probably it would be safe to put the gain at 100 loads, worth, at $1 a load, $100. Thirdly, the increased growth of forage, when not trodden down by hoofs, and the free use of cornstalks and sorghum for feeding through summer, would doubtless double the feeding products of the soil. If 20 acres were in pasture therefore, worth ordinarily $5 per acre, a doubling of this would amount to $100 more. These three items would amount to $261, and would much more than pay the wages of a hired man to cut and draw the 20 acres of forage and take care of the animals in summer—even with the disadvantage of cutting by hand, instead of the appliances of mowers and other machinery used in cutting wholesale in haying time. Probably this estimate may be considerably varied on examination.

Doubtless the best way of treating the 15 acres mentioned is, if possible, to spread a coat of manure on the grass in autumn or winter, and invert the sod the following spring, and plant corn upon it. Follow this with oats or barley and wheat. If oats before wheat, a second coating of manure should be applied. If the weeds are well eradicated, by this time it may be heavily seeded to grass, which will doubtless yield abundantly. The depth of the proposed plowing should vary with circumstances. If the subsoil is sterile, the depth should be moderate; and if a Shares harrow be used on the inverted sod, it will bring the soil into more complete tilth. If the soil is deep, or the subsoil good, it may be advisable for the purpose of destroying the weeds, to turn the whole under about one foot by means of a large double Michigan plow drawn by a heavy team.

It will usually pay to draw muck a mile and a half, (for littering barnyards, forming composts, &c.,) especially if it has been pretty well dried by draining or throwing out in heaps and covering. Wet muck is more than three-quarters water, and it is unprofitable to draw more than three or four loads of water in order to get one load of muck. It is still more important to have the muck dry when it is to serve as an absorbent, for it will not take up any liquid manure when already saturated with water.

Sawdust is only valuable as an absorbent of liquid manure, and for this purpose should be very dry—wet sawdust is nearly useless.

INDIAN CORN AS A FODDER PLANT.

Value of Cornstalks and how to Use them.

At an early period in my career of farming I embraced the English idea that turnips or other root crops were essential to successful farming, because it enabled one to feed a larger stock of animals from a given surface than could otherwise be done, and thereby greatly increased the manurial resources of the farm. I soon found, however, that the conditions of climate so essential to the profitable cultivation of roots, and of turnips in particular, were wanting in a large degree in this country. That instead of the humid atmosphere of England, we had hot dry seasons, which rendered the profitable cultivation of that bulb exceedingly precarious, so much so that with our very hard, cold winters, and the increased amount of room required for storage, no farmer could afford to grow them.

My attention was next directed to Indian corn as a substitute, and I early came to the conclusion that I could make more beef, mutton or pork, from an acre of corn, both stalks and grain, than I could from the same surface in roots. It was not, however, until I adopted the plan of cutting or chaffing the stalks that I began to realize the full value of the plant to the farmer. I have now had several years' experience with chaffed stalks, each year improving upon the exexperience of the last, and begin to think that I pretty well understand the subject of making the most of coarse forage for winter supply.

But heretofore I have, with a very slight exception, confined myself to the stalks of the cornfield after the grain has been secured, observing the results of others' operations who have sown or drilled in corn exclusively for fodder. I took a hint from a milkman who lived near Buffalo and supplied milk to that city. He was in the habit of sowing several acres with western corn broadcast, cutting it up before the frost, and curing in large stooks well set up and fastened at the top with strong bands, and only drawn in when wanted in the winter. The stalks were cut and hot still slops poured upon them, and then fed. He wintered his cows in this manner, and always had a good flow of milk, and his cows kept in high condition. I became satisfied that to make the stalks of increased value to the cattle, some method must be devised to moisten the stalks before feeding, as by that means mastication would be considerably facilitated, and thus their value for feed would be enhanced. Acting upon the ideas thus suggested, and having some 25 acres of corn-fodder, and considerable straw, and only a small quantity of hay—rather a large stock of animals, some 40 head of cattle and seven horses—I prepared vats in the basement of one of my barns, into which the cut feed falls from the cutter. I found that the cattle averaged about 3 bushels of feed per day; the vats therefore held enough for 24 hours' feeding, and an extra feed, or four feeds. When we begin to feed from one vat the other is filled by wetting down every few baskets full of dry feed, and forking it to the opposite end. Before commencing to wet down, a barrel is filled with water, and salt added to make it slightly brackish, and something more than a barrel of water is used upon the vat of cut feed, and entirely absorbed. In a few hours fermentation commences, and before we begin feeding from the vat the feed has become *smoking* hot. Thus far the cattle eat it with great avidity, and seem to thrive; at any rate the cows which are in milk do not decrease the daily flow. The stalks are cut with about one-third their bulk of bright wheat straw, cut when the wheat was well out of the milk, but the berry not hard. I use a power cutter, which is capable of making about 3,000 bushels of cut feed in three hours, the time we usually spend at the work. We usually keep about two days' supply of stalks, uncut, or enough for 6,000 bushels, on hand in the barn, in case of bad weather, but otherwise draw from the field as wanted, having found that the best way of keeping stalks. The straw is not saved under cover. The length of cut is about three-quarters of an inch. I think for sheep I should cut not to exceed half an inch. A few of the coarsest butts are left by the cattle, and a still smaller number by the horses. The waste is not as much as with good timothy or clover hay. In my practice the fodder from an acre of corn is worth all that it costs to make the crop.

This leads to the question how much winter forage can be grown upon an acre by means of cornstalks? I have not yet made any experiments upon this subject which might be considered as conclusive, except in fall feeding from the grown stalks. The product of a square yard of green stalks from western corn, either sown broadcast or in drills, will considerably more than furnish food for a horse for 24 hours. I usually commence feeding when the green stalks are about 4 feet high. I am satisfied however that the stalks grown upon a square yard will furnish fodder for a cow or ox for 24 hours, and all that they can possibly eat.

There are about 200 days foddering for our animals. An acre contains 4,480 square yards, or will contain, if fairly cultivated, the necessary fodder for twenty-two animals the usual number of days. If the corn be drilled in early, and not too thick, say at the rate of 2½ bushels to the acre, there will be small ears enough perfected to supply all the grain necessary to keep those animals in good store condition. But as I may err, and it is better to do so on the safe side, let us double the quantity, say two square yards—and any person who will measure off 3 feet by 6 feet will readily concede that it is no very large yield to say 3 bushels of chopped stalks will be produced from that space. We then have food for eleven head.

It must be understood that it is only by feeding cut feed that I claim such results can be achieved.

I would like to have this subject pretty thoroughly *ventilated* this winter, for I think it a very important one. P. *Darien, N. Y.*

The enormous piggery at Portesham, in Dorset, now contains a herd of swine nearly 4,000 in number. The animals are chiefly fed on wheat and maize. Pig meat is 2s. a score dearer than it was at this time last year, owing to the scarcity of butchers' meat in general.

BONE MANURE.

I was much interested in the article reciting experiments with bone dust, by Thos. J. Edge, published in the Co. GENT., of Dec. 1st, and copied from the Germantown Telegraph. It strikes me, however, that there is one important matter wanting to render these experiments valuable ; and that is, the want of a comparison of the amount of produce on boned land with those on land not so treated. I know the farm on which these experiments were made. It is in a very good state of cultivation, and will produce excellent crops with ordinary farming, but its occupant is an intelligent and enterprising young farmer, who proposes to bring his land up to its fullest capacity in production. Some others of us have also been experimenting with bone to some extent for a number of years, and each year but adds to our confidence in its efficacy as a manure. Our land has been long farmed, and as a rule much of the grain produced has been sold off the premises, and although in many instances lime is regularly applied, yet the yield of our crops is often very unsatisfactory, and especially is this the case with grass. Farmers, or some of them, complain that timothy does not take well with them, and discussions are had as to the best manner of sowing the seed, whether by the drill, before the drill, or after the drill, in the fall or in the spring. But when we apply a dressing of pure home-made bone phosphate, we find it does not matter how it is sown ; it grows equally well sown any of those ways. Our land was too poor to grow timothy.

Another fact is also beginning to be apparent, and that is, we must not follow the homoepathic practice in the application of bone, for however successful it may be in treating the maladies of the human subject, it is not good when applied to the ills of soil. We used to dribble on two or three hundred pounds per acre. and although the effects were good, it was not sufficient to encourage much outlay for bone and acid. Subsequently the dose was increased, and, so far, the profit has been proportional to the expense. How far this proportion will be maintained it is hard to tell ; but I have applied this fall one-half ton to the acre on my wheat, in full confidence that I shall be richly paid for the outlay ; I expect a good crop of wheat and heavy grass after it, and if a farmer can have good crops of grass, he can have everything else. I know one instance near by, where, some eight or ten years ago, a half ton of pure home-made bone phosphate mixed with a portion of guano, was applied to the acre, on a very poor, stony, clay soil, on which nothing would grow, and the result was a heavy crop of wheat, and heavy crops of grass succeeding it, and the field is now covered with a very closely set, compact sod that affords every year an abundance of pasture. Such an application with accompaning judicious treatment, constitutes a permanent improvement. I prefer the phosphate to the raw bone on account of its more immediate action ; and I prefer making it to buying ready made, because, aside from the certainty of getting a pure article when made at home, it is important in order to secure its best effects, that it be applied before fermentation sets in, which is very destructive to the organic matter which the mixture contains. L. *Jennerville, Pa.*

Effects of Top-Dressing with Muck.

Two years ago this past fall, I had a small piece of ground (one-third of an acre,) in grass. It was run out and needed plowing up. I dreaded to put the plow into it, as I was sure of a large crop of cobble stones every time I done so. I finally concluded to try the effect of top-dressing, and accordingly put on, the last of November, sixteen loads (twenty bushels each,) of muck on which two pigs had run two months. It lay so thick on the ground it made it look like a plowed field. My neighbors said I would have to plow it in. In the spring, as soon as the snow was off, I went over it with a rake, breaking up all lumps not dissolved by the snow. The grass soon came up—at least ten days before any other near it. In June it was so stout and lodged I had to cut it. In August I cut it again, getting a heavier and better crop than the first—putting the two crops together, I cut at the rate of five tons per acre of good well cured hay—and could have cut a good growth of rouen later in the season. This year, from the same piece of ground, two good crops of grass have been cut—though it suffered badly from the drouth—and a fine growth of rouen was left on the ground. From this one small experiment, I am convinced that top-dressing late in the fall will pay, and that muck compost is the best manure to do it with. R. *Pepperell, Mass.*

Preserving Butter while Using from Firkins.

A writer in the *New-York Observer* furnishes and commends the following mode, given in Mrs. Cornelius' "Young Housekeeper's Friend." After taking out butter enough to last a week or more, lay a piece of white linen over the firkin, covering it closely around the edges, and then pour on a solution made of two quarts of water, one quart of fine salt, one pound of sugar, and a teaspoonful of saltpetre. Head up the firkin, and if it leaks set it in a wash-tub and put in some more, driving down the hoops; every time butter is taken out, close the firkin in this way. If the salt does not all dissolve in the brine, add a little more water. One recipe will do for 100 pounds of butter. The above correspondent adds—"With this recipe I have kept butter into July, in Brooklyn."

On showing this method to an experienced and skillful housekeeper, she said it was precisely the same that she had been familiar with for more than thirty years as an excellent receipt. Since the high price of sugar, however, she had used only the salt and water, and found it to answer nearly as well.

COUNTRY GENTLEMAN INK.

You will oblige me by republishing your receipt for *black ink*, giving the ingredients *by weight*. It is excellent. SELVA.

Dissolve eight grains bi-chromate of potash, and half an ounce of pure extract of logwood, in one quart of very clean rain-water. The vessels must be perfectly clean, or the ink will be dull or dirty color. Shake the solution occasionally, and leave the bottle *uncorked*. In a day or two the ink will be of an intense black. If mixed with even a small quantity of common ink it will be spoiled. This ink often fails from impurity of materials, or using dirty water or dirty vessels, or pens used in other ink.

* * *

Events are constantly taking place, and politicians are constantly desirous of doing the same thing.

Classification of Fine Wooled Sheep.

The established importance of the Wool-producing interest in this country—especially at the present time—renders it an object of the highest regard with our Agricultural Societies to do what they can to promote that interest in the most effective and judicious way. In the effort to accomplish this, we are met at the outset with differences of opinion as to the proper classification of Fine-Wooled Sheep, at our exhibitions. They all go back to a Spanish origin; and, whatever may be the claims of this or that particular flock to purity of descent from any one Spanish source, the subject is, to say the very least, surrounded with such obscurity as to make a dividing line, upon the basis of descent, apparently quite impracticable. It is much as though our breeds of Long-Wooled English sheep had been more or less confused and intermingled from time to time, all the way down for forty or fifty years,—Leicester and Cotswold and Lincoln, until—while one breeder was disposed to adhere to one name and another to the second or the third,—to the great body of intelligent observers no distinct marks were perceptible on which the classification could be properly based. Differences of form, of wool, of proportion between weight of carcas and weight of wool—could undoubtedly be seen, but these differences would often be found occurring in sheep of the same flock; and the result would be, as was the case under the division of Fine-Wooled sheep formerly adopted in the prize lists of our State Society, that the same flock might compete in all the three classes at the same or succeeding Shows.

The above remarks as applying on the one hand to what have been classified as French, Saxon and Spanish Merinos, respectively, or on the other, to what in the light of very recent investigation it is now fashionable with some to style the Paular, Infantado, and Infantado-Negretti, (or Silesian,) must not be taken too literally; since undoubtedly there is a nearer approach to entire purity of breeding and to uniformity of standard, in some of our American flocks than in others, and, as to the Silesians, they are comparatively of so recent introduction that we know they are now to be found of unmixed blood. We understood Dr. RANDALL at the Rochester State Fair, to advocate distinctly the separation of Merinos under the three last named divisions. But, regarding the chief end of the Merino to be as a producer of the most and the finest wool, our State Society, had merged them all in one class several years ago,—desiring to award its prizes to, and encourage the breeding of, that kind of Merino nearest perfection in this respect, by whatever name it should be styled. This position has one weak point: as already stated, and we believe universally admitted, there are differences, perhaps arising from the very fact of their mixed origin, as regards both carcas and fleece, between individual Merinos, and with a committee biassed altogether in favor either of an exceedingly fine fleece for example, or of an exceedingly small carcas in proportion to weight of fleece,—prizes would hinge rather upon these personal preferences than upon any well-established standard of merit.

It may be presumed, we think, that Dr. RANDALL failed to show that a classification as "Paular," "Infantado," and "Infantado-Negretti," (if we are right in supposing that to have been his proposition) would meet this difficulty. If we apprehended the course of the discussion at Rochester, this was exactly the point on which Mr. PETERS and Mr. GEDDES were eager to obtain farther light, if the time of adjournment had not intervened. We argue Dr. RANDALL'S non-success in the establishment of the above classification, partly indeed from the manner in which that discussion terminated, but mainly from the fact that in a subsequent number of the Rural New-Yorker (as quoted in the COUNTRY GENTLEMAN of Dec. 22d, page 401,) the Doctor himself advises a wholly different course—namely, the recognition of one class of "Merinos, bearing wool adapted to the manufacture of broadcloths and other finer fabrics," and of a second class, including all other Merinos, to which he would add the word "American," as the distinguishing title. Although, as he suggests, in order of publication, the latter might have the first place of the two,—the question of its being a practicable division, arises not only from the difficulty of establishing a line of distinction which shall be invariable, even by the most competent of judges, varying, as they do, from year to year,—but also because *fineness of wool* is in itself generally regarded as a point of superiority, and careful breeders might dislike exceedingly to see their sheep thrown out by a committee from the "Broadcloth Merinos" and put among the heterogeneous lots of coarser-grade "Americans," and, still more, voluntarily to enter them with the latter.

In other words, this proposed division appears to leave us just about where we stand at present. For, if its object is in point of fact to rule out the Silesians as a "broadcloth" class, from competition with other Merinos, we can reach this end in a much simpler way—in a way open to no strife or misunderstanding—by erecting a class under that name. This is not what the breeders of Silesian sheep want, because they desire an opportunity of establishing the claims of that family in direct competition with others, and do not admit the justice of ruling them out on the score of what they consider only one among several features of superiority. Other breeders, we can hardly think, would like Dr. RANDALL'S division, as, say what we will, the idea conveyed by it is one of comparative inferiority in the aggregated many, and of comparative superiority in the select few. Could any efforts at softening the distinction prevent its being eventually regarded as implying "First Grade Merinos" and "Second Grade Merinos" respectively? If, moreover, others than the Silesians are to come into the "Broadcloth class," the difficulties of judging would only be doubled by the preliminary labor of classification; *before* separation into the two classes, *all the Merinos would be in a single class just as they now are;* and in effect, there would be two sets of prizes to award in this single class,—one for fineness of wool, and the other for other points of merit not yet distinctly specified, except by the name "American."

It was the object of this article, not to enhance the difficulties that meet us, but to contribute if possible, to remove them. We confess, desirable as some other classification may be, that none has as yet been suggested which seems to us either practicable, or, as a whole, any actual improvement on our present prize list. We have not a prize list of the Vermont State Agricultural Society at hand, but are informed that all Merinos there compete in a single class, which, if true, may be taken as the example of those most nearly and deeply concerned in the subject.

It has not been the custom of the Executive Committee of our Society, however, to adhere rigidly to the theories or consult only the opinions of one another. They have considered uniformly that they might accomplish the most good in each department of their Exhibitions, by advising with those immediately concerned, and who might reasonably be supposed to have given the most attention to any mooted point. If, upon a full review of the present question, in its various lights, it should seem expedient to sub-divide the Merino class, as it now stands, there is one example in that direction to which no allusion has been made in the discussion of the subject thus far. We allude to the International Exhibition at Hamburg in 1863, an official copy of the Premium Awards at which we have but lately been able to obtain. There were on that occasion *Four Classes* open to competition, the titles of which may be translated as below:

MERINOS.

1. Bred with especial reference to extreme Fineness of Wool.
2. Bred with especial reference to great Weight of Wool.
3. Bred with especial reference to Form of body and Light Keeping.
4. Bred with a view to combine Fineness of Wool, Quantity of Wool, and Weight of Body.

If these four classes were introduced and maintained by the Agricultural Societies of the country generally, and if breeders were led thereby to breed up to some definite standard, and secure greater uniformity in their flocks for either one of the purposes named, doubtless much good might be accomplished, and Four Families of "American Merinos" produced, in which all the previous nomenclature of the breed, whether Paular or Infantado, Saxon, French or Spanish, would be deprived of its past or present influence in misleading the public—and from which flockmasters in different States and climates could select advisedly such sheep as would best suit the peculiarities of their location, and the purposes held in view. And while there continue to be no well defined distinctions between our leading flocks in these four directions, entitling them *to rank as separate breeds or classes*, we submit whether, continuing the Merinos *as a single class and breed*, we may not approach a solution of the problem by offering to the competition of all that are exhibited, some such series of prizes as the following, —of course duplicating the list here given for each of the different ages, and for the two sexes:

For the best Ram, 2 yrs or over, as regards fineness of wool,	$10
2d best do. do. do. do. do.	8
For the best Ram, 2 yrs or over, as regards quantity of wool,	10
2d best do. do. do. do. do.	8
For the best Ram, 2 yrs or over, as regards size and symmetry of carcass......	10
2d best Ram, 2 years or over, as regards size and symmetry of carcass......	8
For the best Ram, 2 years or over, combining quality and quantity of wool, with well developed carcass, ...	10
2d best Ram, 2 years or over, combining quality and quantity of wool, with well developed carcass, ...	8

It would be quite possible, but perhaps not probable, that more than one of these prizes should go to the same animal—in which case he would have double evidence of merit, and the breeder able to reach this end would of course deserve the additional recognition of his success.

Amount of Pork from a Bushel of Corn.

Our readers may have observed the published statement of the experiments of J. B. Lawes, who obtained 100 pounds of pork from seven bushels of corn or one pound of pork from 4½ pounds of corn. The grain was ground and moistened with water before feeding. This is regarded as successful management. At the present time, when pork sells for 15 cents per pound, the corn thus converted to meat will bring a little over $2 per bushel, or at the former rate of five cents per pound, the corn would be worth 71 cents per bushel for fattening pork. This estimate is based upon the supposition that the manure pays for the grinding and feeding.

The experiments of Nathan G. Morgan of Union Springs, published in the Annual Register for 1864, present much more favorable results. As a mistake occurred in one part of that published statement, we here repeat his mode and its results in a corrected form. He always commences fattening in spring, at which time a bushel of corn is more valuable in its results than in autumn, and continues a regular course of feeding throughout the season. The corn is ground, and ninety pounds of hot water poured on every sixteen pounds of meal, and after standing 12 to 18 hours, the whole mass becomes thick feed. He finds by measured experiment that the value of the corn is fully doubled by this process, as compared with corn fed in the ear, and fifty per cent. better than meal merely mixed with cold water. One bushel of corn thus prepared, after deducting ten per cent toll for grinding, and leaving only fifty-four pounds for the bushel, will give 20 pounds of pork—or at the rate of 2⅔ pounds of corn for each pound of pork. When pork is five cents per pound he obtains at the rate of $1 dollar per bushel for his corn, or at the present time, when it is fifteen cents, the corn will yield $3 per bushel.

A coincidence will be observed between these experiments and those of Lawes as above stated. While Morgan obtains by scalding the meal, one pound of pork from 2⅔ pounds of corn—he gets fifty per cent. less, or at the rate of one pound of pork to 3¾ pounds of meal, when mixed merely with cold water, which is within less than half a pound of the quantity of meal required in Lawes' experiments, when the same kind of feed was used.

Breeds and management will of course vary the results; in the many trials made by N. G. Morgan, he had every advantage of good sound corn, comfortable quarters, cleanliness, regularity of feeding, and quality of breed. It may be well to state that he has found the best sound corn double the value of a great deal that is used when badly grown or imperfectly ripened, or more or less mouldy.

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RABBITS GNAWING TREES.

Let me repeat it, for my neighbor says several of his fine young apple trees have been ruined lately by the rabbits gnawing them:—Take thick *lime whitewash* and thin it with strong *tobacco juice.* A bucket full will serve 200 trees, and a man can make it and put it on in half a day. It is effectual, for I have tried it. Suel Foster. *Muscatine, Iowa.*

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Make provision for want in time of plenty.

Winter Evenings for Farmers' Boys.

Every farmer, whether his business be on a limited or an extensive scale, should labor some with his own hands. He should know practically how to perform all the different farm operations with skill, that he may instruct his men and take the lead in cases of emergency. By doing so he will avoid that feeling of dependance and helplessness which will occasionally come over every one who depends entirely on his hired men. If his farm is small, he may, if he chooses, spend most of his time in personal labor; but if it is extensive, his frequent examination of every part, and proper supervision of its labors, will render much work from his own hands unadvisable and even unprofitable. But our object at present is to speak more particularly of farmers' sons. While they should learn to do all kinds of work, they should not be worn down by it. The development of the mind as well as of the body, is worth far more to them than large and hard-earned estates. They should not, on ordinary occasions, have to labor so severely as to unfit them, during the season of short days, for evening improvement. There is no greater benefit which a parent can confer upon his son, in order to fit him for success in life, than to give him a taste for intellectual cultivation. Every association should therefore be thrown around him, and every attraction offered to induce mental culture and refinement. The farmer, therefore, who cannot afford separate rooms in his dwelling for a parlor to receive company, and a study or library for his sons, should give up the former for the sake of the latter. A good study-room should at least be secured, whatever else may require to be sacrificed; and this should be made attractive in an intellectual, literary and scientific point of view, so far as may be practicable. Young men and boys will then be less disposed to stroll about during the long evenings of winter, or spend their time in idle talk and bar-rooms, stores and other places where the idle and uncultivated assemble, and where they often acquire the first lessons in smoking, drinking and gaming.

Among the various occupations for evenings, may be mentioned the following: Drawing designs of houses, barns and other farm buildings, and planning their internal arrangement; sketching objects in natural history, writing essays on rural subjects; consulting and comparing the views of authors; and especially important, the practice of keeping a regular register of passing events. This register may be kept in a single blank book, embracing observations on the crops and the result of management, on the weather, including notices of the winds, clouds, storms, meteors, &c., on the appearances of birds, the advance of vegetation, and on various occurrences, either of an immediate personal nature, or from more widely extended observation. It may be deemed best to procure different blank books for different departments, as, for example, one on natural history, another on agriculture, and a third on the occurrences of the day. Parents should encourage their children to keep such records, as the practice not only improves them in writing, thinking, acquiring information and arranging their thoughts, but such records may be referred to in after years, and will be found interesting as well as valuable in many ways. In order to encourage young people in this practice as well as to perform it in a neat and finished manner, handsome and suitable blank-books may be given to them, as appropriate Christmas, New Years or birth-day presents; or neat writing desks, or portfolios, furnished in the same way.

The many excellent designs which we receive for publication in this journal, of various rural contrivances and structures, possessing much merit in themselves, but drawn in an imperfect and bungling manner, show the great and prevailing want of instruction in drawing, or encouragement of its successful study. Every facility should, therefore, be afforded for improvement in this art—pencils, and the best instruments for drawing plans and designs should not only be furnished, but the importance of executing the work in the neatest and most accurate manner shown to the young artist. We once knew a boy who, without any instruction or guide, selected the most finished and finest steel portrait within his reach as a lesson to copy—and determined to execute the work well. He spent nearly an entire week on one eye and the nose with great success, for the closest scrutiny could scarcely have discovered any inferiority to the original. Although such extreme care may not be advisable in ordinary cases, yet it is incomparably better than the more frequent hasty, careless, inaccurate, distorted and coarse productions so frequently seen.

An interesting winter employment may be afforded to young farmers, by comparing and digesting the many items of interest comprised in a farm diary kept during the preceding season. The results of various practices may be observed and compared, and valuable information thus derived in relation to the most profitable points in management. A memorandum book may be made from these examinations for the labors of every week during the coming year, which may include many suggestions for future observation and experiment. All these will not only enable the young farmer to reach a degree of perfection and profit which those who depend only on their memory cannot attain, but the practice will lead to order and system, and prevent the omission of many essential operations in farm management.

There is no class of scientific studies, connected with rural pursuits, more interesting and appropriate than those of the different branches of natural history, such as botany, mineralogy, geology, entomology, &c. The library and reading-room, which every farmer who has children should provide for them, will be all the more interesting for the collection of minerals, the specimens of dried plants, or the cases of insects which it may contain. Skillful young men and boys will construct these cases with their own hands. A farmer's son, whose herbarium contained fourteen hundred species of plants, not possessing much pecuniary means, purchased the paper and bound with his own hands the nine neat and thick folio volumes which contain the specimens. This may not be usually necessary, but the more that young people learn to manufacture and help themselves, they will not only become more skillful and less dependent on others, but will acquire an interest which merely purchased objects will not give them.

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Be content with what you have.

FEEDING SHEEP IN WINTER.

MESSRS. EDITORS—We often hear the question asked, when is the best time to feed grain to sheep? I have no new theory to advance, but as far as my limited experience goes I am satisfied that the grain should be fed the first thing in the morning, and my reasons are as follows: The most important is, they get it regularly at same hour every day; whereas, if fed at noon they generally get it any where from eleven to one o'clock, and with about the same irregularity if fed at night. Most farmers, especially in New-Hampshire, have business in the woods at this time, and it is not always convenient for them to be at home precisely at noon, or just such an hour at night; consequently the feeding must necessarily be more or less irregular.

I believe every observing flock-master will agree with me, that sheep generally have the poorest appetites in the morning. Now I find that a gill of grain to a sheep will sharpen their appetites, and that they will eat poor hay or straw, or whatever is put into their racks, much better after grain than before it—in this respect they are like children, they want the pie first.

Another reason is, their racks are in a better condition to clean out in the morning, and you are not annoyed with a continual bleating and blowing every time you go to the barn, which is apt to be the case if fed at any other time of day.

If sheep cannot have grain through the whole foddering season, it should be dispensed with in the middle. I usually commence to feed grain when I begin to put the buck, which is about the 1st day of Nov., and follow it about ten weeks, and then if the hay was well secured and cut early, I dispense with the grain about eight weeks; this brings me into March. I then commence the grain again, and follow it up till pasturing time, and then gradually take it away. In the above I have reference to my breeding ewes. I believe the grain at the first part tends greatly toward the development of the fœtus. I believe in giving the germ a good start, whether it be in animal or plant; and I know that the grain at the last part causes a better flow of milk; consequently a good fat lamb.

I find many farmers in this section think they cannot afford to feed grain at the present high prices. They think corn at $2 a bushel rather too "heating," but are not aware of the fact that poor swamp hay and brakes are a little too "freezing," and if they are lucky enough to raise up half their lambs, and not lose more than half their sheep, they think it is "bad luck," as they term it, or lay it to the "hard winter for sheep."

The present high price of wool will induce many farmers in this section to keep more sheep than they can get through without considerable stinting. Many have allowed their sheep to run till nearly the present time without any extra feed except a little poor hay; consequently such sheep will come to the barn in a poor condition, and many will grow poorer till their pelts are hung over the beams. This was the case last year with thousands, but still a few farmers are not satisfied with the experiment, but are trying it over again, and think they are great economists, and tell us with great gusto, that "their lambs get nothing but meadow hay and brakes, and plaguey poor at that."

But, Messrs. Editors, we have men here that are satisfied that good keeping pays, and feed their grain freely, and get a good price for it. They know if a sheep is worth keeping at all, it is worth keeping well; if not, the quicker its pelt goes over the beam the better. S. C. PATTEE. *Warner, N. H.*

THE CASHMERE GOAT.

EDS. COUNTRY GENT.—Enclosed I send you circular of Mr. S. S. Williams, Granville, Ohio, giving almost the whole of the information existing in this country concerning the Cashmere goat. I have noticed several items in your paper on this subject from persons illy posted, and thought this circular would be a valuable memorandum for your occasional use.

Personally I would also add, that I have seen the flock of Dr. Davis on his plantation on the Saluda, S. C., also his cattle from India, (mentioned in papers under various names.) Of these latter, I can say decidedly, they are fit for only a "menagerie." Neither for work, milk, nor fattening qualities, will they bear comparison with the Texan cattle. They lie all day submerged in mud—at night roam over and through the best of fences, as fleet as horses, and naturally wild.

On the subject of the Goat, I wish to add my testimony wholly and flatly against the fleece of this goat ever becoming a valuable staple.

The Cashmere shawl of commerce is from *the fur of the infant kid*, each animal furnishing an ounce or two, and dying under the process of deundation. This fur is a mouse color, and retains colors richer and more beautiful than any known substance. But to us in America, is not soon to be of value.

The fleece of hair, is only hair—lacking the felting quality almost wholly. Dr. Sims, who succeeded to Davis' flock at his death, took the goat wool to various manufactories for carding and spinning. They could not succeed. Finally a Mrs. Morris, near Hendersonville, N. C., succeeded in carding some by hand, and thus Dr. Sims got a pair of coarse, hairy, harsh pantaloons, very durable no doubt. He exhibited them at various State Fairs without producing any favorable response, except for his own industry.

This goat is really a great acquisition to our Northern farmers in a different way from any yet suggested, and for the general benefit I will here mention it in as few words as I can.

Kid meat is equal to the best venison, if killed at eight or ten months old! The common goat at ten months dresses about 50 pounds, and the Cashmere, 100 pounds. The Cashmere is a beautiful animal, and an ornament to any man's grounds, *and is not breachy*. A farmer can have a flock of 15 to 30 without any trouble or appreciable cost of "keep." The farmer in summer gets no fresh meat except from his poultry, from circumstances well known to farmers, and therefore not necessary here to mention.

From his beautiful little flock of goats he can kill eight to sixteen kids each summer, making, say 80 pounds each of better meat than he ever tasted of before. This practice, in vogue all over the cotton country, ought to be adopted by our farmers at once; we have every species of pasturage and fodder, cheaper and more abundant than they ever had. In this view I am a Cashmere man, but in counting upon its "clip?" I wish none to be disappointed.

Fort Wayne, Ind., Dec. 15, 1864. J. R. STRAUGHAN.

Phosphoric Acid for Turnips and How to get it.

MESSRS. EDITORS—The method of preparing the bone manure for my turnip crop, alluded to by Mr. Bartlett in the COUNTRY GENTLEMAN for Oct. 13th, page 284, and which I told him I would furnish you for publication in the Co. GENT. is as follows:—In the first place I expel all the animal matter from the bones by burning them, so they can be easily reduced to powder by grinding. In order to burn them with as little waste of the mineral part of them as possible, I build up a cheap kind of a furnace, in the open air, with any brick at hand, old or new. I make the furnace of a suitable size for the quantity of bones to be burned. One of a circular form, two and a half feet in diameter, and about three feet high, will be large enough to burn two or three bushels. I do not use any mortar in making the furnace, but merely lay the brick together in the same way a well is bricked up. In building it, when it is eight or ten inches high, I lay bars of old iron across it to make a grate for the bones to lay on so as to keep them up from the wood placed below them. A hole eight or ten inches square must also be left in one side of the furnace below the grate to put wood in under the bones to set them to burning. The bars of iron need not be very close together, only near enough to hold the larger bones, which are laid in first and then the small ones above them. If the bones are not disturbed while burning, and they need not be, very few of them will crumble to pieces so as to fall through the grating into the wood ashes below. After the bones are put in at the top of the furnace, put some dry kindling wood in under them and set it on fire; the bones will soon get heated so as to take fire and burn themselves; therefore it will not take much wood to burn them. When they get well to burning they make a very hot fire and a vast quantity of smoke, which is not of a very agreeable odor, for which reason it is best to have the furnace some distance from the dwelling-house. After the bones get well to burning they can be left without farther care; in about two hours they will have burned to whiteness. When they have cooled down so as to be handled, I take them out, break up the large ones with an old ax, small enough to be ground in a plaster mill. If there is no plaster mill in the vicinity they can be ground at any mill where corn is ground on the cob, and in the same way. If some of the bone ash gets left in the mill and so gets into the next grist of grain it will not do the animals that eat it any harm, but may do them some good, especially if they are troubled with the bone sickness. I have the bone ash ground as fine as possible, and it can be ground as fine as flour. The finer it is ground the less time it takes to decompose it with acid.

About the first of last June I had some land prepared ready for sowing sweet French turnips and ruta baga, but the ground was very dry and I waited for rain. July arrived, still no rain; it would soon be too late for sowing ruta baga. We were then having the most severe drought ever known in the State. The surface of the ground was as dry as ashes for some inches in depth. The question was, how I could sow the seed with any hope of its vegetating. I had a quantity of the above described finely ground bone ash which I could have converted into superphosphate of lime by the method I have described, published in the Co. GENT. for May 19th, page 314, but I thought there might be a better method for a dry time, and besides, I had long been of the opinion that the fertilizing effects of the so-called superphosphate of lime depended wholly upon the soluble phosphoric acid which it contained. If that was the case, then why not decompose the bone ash in the same way it is done in the process of making phosphorous. This process would certainly decompose all the bone ash and set the phosphoric acid free if it could be done, and being in a liquid state, it could be applied in the drill with the seed, and might afford sufficient moisture to make it vegetate. I was also influenced to try this method because a similar method is highly recommended in Morton's Cyclopedia of Agriculture. I made up my mind to try it.

Into a half hogshead I put 15 gallons of water; to this I added 16 lbs. of sulphuric acid, and then stirred in 24 lbs. of the bone ash, and let it stand, with occasional stirring, twenty-four hours. The ash was almost immediately decomposed into sulphate of lime and phosphoric acid. The sulphate of lime settled to the bottom in an almost impalpable powder, leaving the phosphoric acid held in solution by the water, which was too intensely sour to be applied with the seed in the drill without being very much diluted. I therefore, when ready to sow the seed, after stirring the mixture well, took out one gallon, added to it four gallons of water and distributed it in the drill with the seed at the rate of about one gallon to six rods of drill. I left a few alternate drills without the liquid.

There was a little rain fell a day or two after sowing the seed, enough to wet the ground perhaps half an inch, but bright hot weather followed immediately after, so it could not have done much good, but it probably helped start the seed, for it all came up well in less than a week. The rows that had the liquid applied came up before the others and grew much the fastest. The seed was sowed the 9th day of July; two weeks after, or on the 23d day of July, notwithstanding there had been no rain except the above mentioned, the plants which had the liquid had rough leaves an inch across, while those without it were just beginning to show the rough leaf. Mr. Bartlett saw the turnips the 28th day of September, and has stated how they appeared then; when I harvested them there was as much difference as when he saw them; those that did not have the liquid were hardly worth harvesting, while those that did have it were from three to six inches in diameter, and were the handsomest and best turnips I have ever raised, the sweet French turnip being about as much better than other turnips as the Hubbard squash is better than other squashes.

There was no other manure put upon the ground this year but this decomposed bone. Last year, there was a light dressing of barn-cellar manure spread on and plowed in, and the ground planted with cabbages; the crop was a good one; so there was probably not much manure left in the ground for the turnips this year. The drills in which the turnip seed was planted run north and south; the liquid was distributed along in the drills. When harvesting the turnips I noticed almost every one of them had a strip about an inch wide, or about the width of the drill, on the north and south sides, corresponding with the drills, from where the turnips entered the ground to its tap root, plentifully supplied with fibrous roots, while the east and west sides were almost entirely destitute of them. This I think is conclusive proof that the growth depended almost entirely upon the liquid manure, or most likely upon the *phosphoric acid* contained in the liquid. A. CHANDLER.

Concord, N. H., Dec. 16th.

Agricultural Review of the Past Year.

In reviewing the past year, agriculturally, we think it may fairly be characterized as, on the whole, a year of progress. While marked by the introduction of nothing *new*, in the direction of farm crops, or machinery, or domestic animals, it has borne witness to an increased interest in improvements before rendered generally familiar; and, making due allowance for the distraction arising from the condition of our public affairs, its Shows would compare favorably with the average of previous years,—a considerable number of new associations have been established, the subject of agricultural education has met with increased attention, the collection of agricultural statistics has been more widely canvassed, and the possession of enlarged means has enabled many to meet obligations heretofore incurred, and led them to think more seriously of entering upon a course of better farming hereafter.

In Live Stock, the great excitement with regard to Fine-Wooled Sheep has been sustained, and perhaps somewhat increased upon that of the previous year. The ultimate fruit of this will doubtless be to give greater weight of fleece and finer quality of wool to the common sheep of the West. Meetings of Wool-Growers have been held in several States, and societies organized; and if those who are convinced that the production of this staple is the best object to which their land can be devoted, will adhere to that conviction in spite of any temporary drawback in the future, with the same spirit and energy now displayed, both our agriculture and our manufactures must be largely benefitted. In other classes of improved animals, there has been a growing demand, particularly throughout the Eastern States, where the Short-Horns seem to be every day more widely diffusing themselves, and South-Downs, Leicesters, Cotswolds and other mutton sheep are meeting with steady though slow and quiet growth in favor. In dairying localities there has been greater inquiry for the means of improvement, and Ayrshire and Jersey cattle are in request. The Devons appear to hold their own, although our breeders had formerly a large demand for them from the South, which, cut off by the war, has probably never been fully made up at home. There were several importations of improved stock into the neighboring British provinces, but nothing of special importance among ourselves.

Agricultural Colleges are in continued operation in in Pennsylvania and Michigan. Organizations have been effected or arrangements begun, in Massachusetts, Connecticut, New-Jersey and Iowa, while in several other States it has been decided to attach departments to existing institutions. In New-York we have had the pleasure of recording a most liberal offer of endowment for a new college from Hon. EZRA CORNELL—the present college having been closed at the beginning of the war from insufficient means, and the "People's College" having not yet qualified under the act entitling it to a share of the public land grant. This endowment, we trust, may be accepted during the present session of the Legislature; in which case 1865 will share with 1864 a memorable place in the records of private munificence for the public good.

As to Crops we do not learn that the culture of sorghum has fully equalled the expectations of those who hoped to see it supplant, in the manufacture of sugar and syrup, the product of the southern cane. It has assumed, however, a well established place among the farm products of Ohio, Indiana and Illinois, and to some extent in Iowa. We have heard less in 1864 than in 1863 about growing cotton in the border States, although there was a limited quantity planted. Flax appears moreover to have received a smaller degree of notice, at least in print, although the culture of it has possibly extended. Tobacco growing has been undertaken in many new regions, and much enlarged where it before had a foothold.

The year was marked by a vast extension of the Factory system of cheese making, which is entitled to rank as one of the leading features in its agricultural history.

In Horticulture the great attention devoted to the Grape was the especial characteristic of 1864. But the demand for orchard trees of all kinds, and for the smaller fruits, must have been very large, and the nurserymen have certainly had no reason to complain of public neglect.

As to Machinery and Implements, as already intimated, manufacturers have been pressed to the utmost to supply their customers. This activity will doubtless continue during the coming season, and intending purchasers should consult the advertisements of makers as soon as they appear, and order early. The autumn of 1864 witnessed the importation of what is probably the most successful of the English Steam Plows—Fowler's patent—but too late to secure its trial here before the closing of the season.

In Rural Literature, 1864 has seen the last of many of the volumes on Agriculture and Horticulture which for ten or twenty years have made up the bulk of the catalogues. Some of them will be missed, but several are soon to be replaced by re-written and enlarged editions. Among the books noticed in these columns during the year, although not all of them published within it, have been Mr. FULLER'S "Grape Culturist," Mr. MITCHELL'S "My Farm of Edgewood," and "Wet Days at Edgewood;" "Ten Acres Enough," and "How to Get a Farm;" Mr. BURR'S "Flowers for the Parlor and Garden;" Lippincott's reprint of "The Illustrated Horse Management;" "The Field and Garden Vegetables of America," and "Cochrane's Farm Book-Keeping." "The Practical Shepherd" from the press of D. D. T. Moore of Rochester, had one or more new editions; our own "Rural Affairs" met with a gratifying sale, and "The Annual Register" fully maintained its popularity.

There are other features of the last year to which we have not room for reference in this brief summary; and, in closing, we may remind our readers that we shall receive with interest whatever, either in manuscript or in print, they may be kind enough to send us, tending to render our columns a more complete repository of current events, and enabling us, when the year shall close, to review its agricultural history as understandingly as possible.

◆

A Good Investment.—A recent advertiser of live stock in the COUNTRY GENTLEMAN writes us that the investment of $1 in advertising made sales of three pairs of animals amounting to $130, to four purchasers, residing in three different States.

KEEPING ROOTS IN WINTER.

A great leading deficiency among farmers throughout the country, is the want of suitable and spacious cellars for storing roots. Many are deterred from raising them so extensively as the highest profit in farming would require, from the difficulty of not knowing what to do with them after they are raised. There are many farms supplied with good out-buildings, which would be better and more durable by placing cellars under them, the only cost of which would be the excavation and walls,—the roof being already supplied. A cellar 25 by 50 feet, and 8 feet deep, would, if full, hold seven or eight thousand bushels, and need not cost over two hundred dollars at the utmost, if the building over it is not included in the estimate. If properly divided into bins, two-thirds of this space might be occupied. affording storage for some five thousand bushels of roots—or of waste apples when there is a surplus, which for want of such convenience for storing are often lost in productive years. Five thousand bushels would be enough to feed sixty animals for five months, or from the first of December to the first of May, giving each animal a peck night and morning, or half a bushel a day. If fed three times a day, this supply would be enough for forty animals. Any feeder of experience will be aware of the great improvement in the animals which this succulent food will effect when given in connection with dry fodder, such as hay, straw, or cornstalks, during the entire winter months. If animals come out of the winter in the fine condition which judicious feeding would give them, they will remain in good order in the pasture through the season—milch cows affording a more abundant supply, and fattening animals bringing a higher price at less cost.

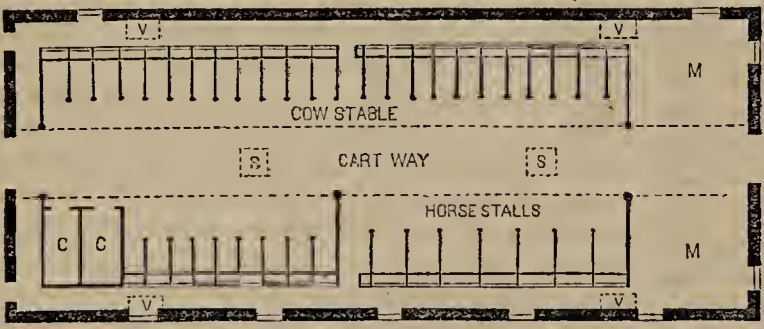


Fig. 1.

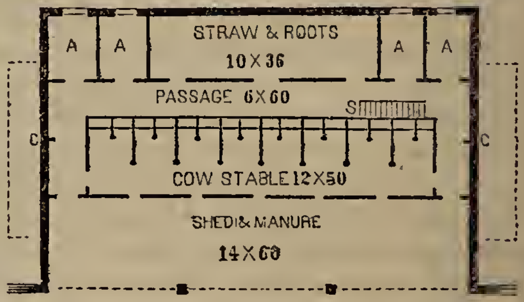


Fig. 2.

Our present object is to invite the attention of farmers to the condition of their roots already stored in cellars. Many of these are lost from the careless manner in which they are stored, and the bad condition in which they are kept. They are very commonly thrown in heaps on the bottom of the cellar in contact with moist earth, and with little or no ventilation. The cellar is commonly much too warm for them, and the combination of heat, moisture, and foul air, if it does not rot them, greatly injures their flavor and quality. One of the first things, therefore, which every man should do, is to give his cellars plenty of fresh air. He ought to place a thermometer in it; and, so long as the mercury stands above freezing, he need fear nothing—the cooler the better. When the weather is mild, or not below freezing, there need be no fear of throwing open both windows and doors, and allowing the air to sweep through; and as the thermometer outside descends below freezing, the door may be shut and the windows partially closed, so as not to allow the moisture in them to freeze. Many on trial will be surprised at the amount of air which may be admitted with safety, and the ventilation thus effected by sweeping away the close and impure air will be worth many times more than all the cost of attendance.

This mode of ventilation, however, will be more or less defective, as the fresh air cannot properly reach every part of the masses of roots. To become perfect the interior of cellars must be specially constructed with a view to the passage of air through every part. The passages between the bins for receiving the roots should be in the direction of the prevailing winds, so that by opening a window at each end a free circulation will be effected. The roots in the bin should never rest upon the earth or bottom of the cellar, but should be kept about a foot above it by means of slats. These slats may be most conveniently arranged in the form of trap-doors covering the bottoms of the bins,—so that they may be raised, when the bins are empty, for cleaning out the earth which will fall from the roots through the slats on the bottom below, which would be most easily cleaned if covered with a floor of water-lime cement. If the air of the cellar is inclined to be moist, this cement floor will lessen the moisture.

If there is plenty of cellar room, the bottom of the bins may be considerably higher on the rear side, and sloping to the front. A narrow door-way, closed by several pieces in front, will enable the attendant to fill his basket or barrow, placed directly under it, with great facility; and the raised bottom at the rear, will enable him to clear away the fallen earth through another alley provided for this purpose.

These arrangements for preserving cleanliness, dryness, and furnishing a pure cool air throughout the cellar, will prove of great value, and much lessen the aversion which many have to keeping roots on a large scale for stock.

In feeding large quantities of such heavy materials as roots, it will be important to have them placed so that they can be fed with facility to the animals. A smooth cartway for the passage of a hand-cart, should extend from the slicing apartment to the cattle-yard or stalls.

Various modes may be adopted for arranging and combining cattle-stalls with root-cellars, so that both may be easily accessible to the other. If the barn, for instance, should be in the form of a T, one or both the arms may be a root-cellar. If, as is more commonly the case, the form be a parallelogram, the roots may be placed at end end or at the middle of the basement, according to the amount of exterior embankment, for security against freezing. In a cellar like that represented in the annexed cut, (fig. 1.) if the end at M M runs into the bank, this end might be well appropriated for roots, the space between the two Ms being appropriated to cutting or slicing. If desired, similar spaces may be left at the other end for manure or forming composts; or if straw is largely used for litter, the manure should be placed out of doors. S S show the large square tubes through which straw and fodder are thrown into the alley from above; and V V are ventilators.

Fig. 2 shows a root-cellar at the middle of the basement, kept from freezing by straw above. A A, calf-pens, and C C, cisterns. All such cellars should have side-doors and funnels for dumping the roots from a cart.

DEEP PLOWING.

The readers of the Co. GENT. of Jan. 1863, will remember that I wrote an article on deep plowing, which was then published, promising to give the result of my experiment at some subsequent time.

The land on which I have tried deep or subsoil plowing is a clayey loam, with a very retentive subsoil. I began five years ago by following the large Peekskill plow with Starbuck's subsoil plow in the same furrow. The subsoil plow does not cut more than two thirds as wide as other plows, and merely raises the earth some four inches, and falls back in its original bed, leaving a strip of earth between the furrows undisturbed.

After going over ten acres in this way, I thought I might more effectually stir the whole subsoil strata by cutting both furrows with the same plow. I then gaged my sod plow to cut six inches deep. By having the draft raised and throwing the roller into the furrow I could easily cut the second furrow in the bottom of the first without any alteration of the draft or the roller. This was much more convenient than to change plows every round, as I did when using two plows, as I performed the work with a single team. In performing the work with a single plow I stirred the whole earth the depth I plowed, raising part of the subsoil furrow to the surface, so that at the next plowing the sod and subsoil furrows will be well mixed together.

I have cultivated fifty acres in this way during the last five years. Most of this plowing has been done with Remington's large size steel plow, made at Illion, N. Y. The land I have cultivated, as above stated, is nearly free from stone, and much of it of so adhesive a nature that an iron plow, however bright, would load up the mould-board, while the steel plow would always keep clean, and save 25 per cent. in the draft. Any plow will clean itself in loose gravelly soils. I do not think it necessary to subsoil loose, porous soils, whose tendency is to leach, as they are loose enough without.

I prefer to subsoil in the fall—first, because there is more time for this extra work, and teams are strong; and secondly, because clayey grounds may be quite moist and pasty, and any lumps of clay thrown up will be slaked and left light by the frost of winter and April winds. Land thus fall plowed is left loose, and the air penetrates it till it is worked in the spring, thereby improving the subsoil for vegetation.

I have had better crops on land worked as above than before, as it lets the air mingle with the soil at a greater depth; water recedes from the surface quicker, and I can run my plow to a depth with ease that could not be done before.

Mexico, N. Y., Dec. 12th, 1864. HIRAM WALKER.

How to Improve Worn-out Land---Soiling

Seeing the inquiry of C. L. of Penn., a week or two since, as to the best method of keeping up the fertility of small farms, put me in mind of a communication I had prepared on the subject some time since, but I deferred sending it, thinking it might not be of value to any one; but if it will prove any service to him, and if you think it worth publishing, I will let him have my experience for what it is worth.

In the year of 1860 I took a small farm of fifteen acres. I put in the most of it to corn and potatoes, without manure, for I had none to begin with, and the land had been cropped for sixteen years in succession without any manure having been applied during all that period. The result was what all might expect, for I harvested ten bushels of corn per acre and twenty-eight of potatoes per acre. I found such farming would not pay me, so in 1861 I put down to clover all but about four acres, upon which four acres I put all the manure I had made during the winter.

In 1862, having no pasture, I was compelled, much against my will, to soil what little stock I had. I had neither seen or heard anything of soiling as a system, for I did not take an agricultural paper then. So, on the 15th of May, with many misgivings, I commenced cutting clover, and from then till the 28th August, I kept in the barn-yard, 28 ft. by 36 ft., one horse, two cows, one yearling steer, and two hogs, in perfect health and good condition, on the mowings from one measured acre. I had to contend with the sneers and prophecies of my neighbors as to the health of my cows and the quality of their milk; but I had the satisfaction of obtaining from my two cows more milk, and of a better quality than any of them did from any four of theirs which were kept at pasture or on the ROAD.

I thus made a large quantity of choice rich manure, which, being applied to the soil, and the plow put down a little deeper than heretofore, has increased the fertility of the soil astonishingly. I can now raise a crop, which, if not a premium one, is far ahead of my most sanguine hopes. I have since added, as an experiment, a small flock of sheep, which, after they have been in the yard sixteen months, are remarkably healthy. I am so much in favor of soiling, that were I to go on a hundred acre farm, I would not pasture a hoof on any land that could be cultivated with profit. I should say that my land is a moist sandy loam, well adapted to grass. I think if C. L. will adopt a system something like this, and put all his manure upon a comparative small space, and concentrate all his force upon it, and raise considerable roots, keep the balance of his farm in grass, and keep as much stock as possible, he will be satisfied with the results. R. D. SMITH.

Collamer, Cuyuhoga Co., Ohio.

An English farmer who had great success in growing roots, being asked how many times the land should be plowed for turnips, replied: "Plow it as many times as it requires, and then plow once more."

WHAT SHALL FARMERS DO?

What should be the aim of the farmer in the present extraordinary position of his business? This is a very proper question to ask at the present time, when the labors of the past season have closed, and while some time yet remains, before the opening of another spring, for a thorough consideration of the subject and arrangement of future plans.

The high price of almost every farm product operates as a strong stimulant to every farmer to make the most of his land; but a serious obstacle is met at the very first step by the extreme scarcity and high wages of farm labor. This dilemma is very likely to lead many to the old and unprofitable course of *skim-culture*, unless prevented by proper intelligence on the subject. Farmers will be tempted, in the hope of doing all they can with a small amount of labor, to omit practices essential to high cultivation and success. They will try to plant and sow fifty acres of land with a force scarcely sufficient to go over thirty acres in the best manner. As a consequence, they will plow wider and shallower furrows, and harrow the land hastily, and trust to good luck in giving heavy crops in return. Heaps of manure will either lie unspread, or if actually applied, will receive less harrowing, and be badly intermixed with the soil. Broad corn-fields will be marked with uneven patches, and be encumbered before autumn with a heavy growth of weeds. In other words, they will have selected, by such management, the very worst system, and that the least adapted of all to the present emergency. Skim-culture requires more labor, for what it obtains, than high farming. Every skillful manager knows that it is easier and cheaper to obtain a thousand bushels oi corn from fifteen acres than from fifty. It is not because the successful farmer obtains occasionally a very large crop or a high price that he makes the business permanently profitable, but because he uniformly raises good crops without failure through all the vicissitudes of seasons. This he can only do by keeping his land in the best condition, and giving the best cultivation. The superficial manager sometimes sees an occasional or accidental good crop raised with little care; and he is tempted to try the same mode in other instances, with the hope that each will prove alike lucky, although the failures may be nine cases in ten—in the same way that weak-minded people venture their property in lottery tickets, although they know their chances are very slim for obtaining anything in return.

It should be a prominent aim at the present time to concentrate labor—not to spread it over an extended surface. The former, if well-directed, will be sure to bring certain returns; the latter, very uncertain profits at best, with a strong probability of failure. Cultivators, who uniformly raise good crops, are those who are careful never to waste labor—who do not apply manure to a wet soil where it cannot possibly afford a fair return; who avoid planting so late that a heavy growth is impossible; or who undertake so many operations that they can never properly accomplish any. They take time by the forelock—they refuse to begin any operation that they cannot carry through in the best manner—they keep all their operations in a compact shape—and by good calculation, and well laid plans, every thing is up to time. They thus obtain more from a given amount of labor than can be possibly reached in any other way. This is the very kind of management suited to the present emergency. The farmer who is compelled to pay two dollars a day to laborers, will receive more by such management than by spreading the labor over a broad and profitless territory.

Every one should know, long before spring commences, precisely what he is able to accomplish, and what he is going to do. If contingencies are depending, plans should be well laid for each contingency. Taking the number of days from the opening of spring until planting time, and allowing one-third at least for raining days and accidents, he should know by the amount required for each day's plowing, how he will come out in his undertakings. If he finds he has marked out too much, he ought to reduce at once the proposed extent of his operations. If he does not, he will be sure, in the first place, to do his work in a hurried manner, and secondly to plant too late—the two great leading causes of bad farming. These will be followed by weedy crops, because he will be behind hand all summer; and his labor, for which he pays two dollars a day, will really cost him four or five dollars, because it will be continually applied to a disadvantage,—to the wrong end of the lever. It is more than usually important, therefore, to examine and digest plans thoroughly during the present winter.

In the meantime, everything practicable should be done now that may interfere with the regular order of labor after spring opens. Fences should be repaired in open weather to prevent that worst of all interruptions—intruding animals. A half-year's fuel should be procured and prepared for use. All the manure that is accessible should be drawn out, and spread in the best manner where it is intended to be used—it will be of more value to the coming crop for this early application, and the ground will not be cut up and poached by the horses and wagon wheels used for drawing out the manure on the soft soil of spring; and lastly, and by no means least, procure the very best implements, and have them completely ready when the campaign opens. A hoe that will enable the laborer to accomplish fifty per cent more in work, will not be long in paying for itself at present high wages. The plow that inverts the soil in the best manner, and runs with the least force of draught, will add many dollars' worth of time, to the man and team who use it throughout the season.

There is another very essential point to success—and this is that every manager should give close attention to the execution of every part of his plans. An eminent stock-raiser made it a rule to place his hand daily on every one of his animals. If anything went wrong he was sure to detect it immediately. If any improvement was suggested he was able to see it carried out under his own inspection. The extensive farmer will not be able to perform continued labor, for he should witness so far as practicable the operations of every department. And yet if he is a skillful worker, with his own hands he can not only correct many imperfections in the work of his men, but often throw new life into them in cases of emergency. The limited farmer, who has less to oversee, may, to a greater or less degree, occupy himself with regular labor; but still if he is an observant man he will find that it is better to err by too much supervision than by a neglect of many important points involving considerable amounts, for the purpose of accomplishing a single day's work.

To sum up then—let the order for the coming season be—1st, well-digested plans; 2d, concentrated labor—or everything done in the best manner; 3d, the best tools in readiness; 4th, the performance of everything in winter that may interfere with spring and summer work; 5th, personal supervision of every department.

ONE-HORSE MOWING MACHINES.

I am a manufacturer of the "Buckeye" Mower, and the "Excelsior" Self-raking Reaper, and will answer your correspondent in your issue of Dec. 8th, inquiring "why one-horse mowers are not successfully introduced." The two-horse cuts, in mowing, 4½ feet, and many of the machines, nearly all, are heavy draft for *two* horses. Now for the principles indispensable in all machines: *Weight sufficient for traction to drive the knives sufficiently rapid to cut easily*—as each "section," (cutting blade,) cuts at the same moment, and a heavy amount of metal must vibrate rapidly, besides doing the work; this *traction* must be nearly as great in a one as in the two horse machine. Per contra—a four-horse machine, cutting nine feet, is successfully used on the prairies, and is *very easy* on four horses. A two-horse machine, reduced in all its parts one half, would in most cases be too weak for the purpose.

Again—in practice our two-horse machine seldom, if ever, averages a four foot cut—no driving can be accurate enough to use the whole "bar" by a half foot. This inaccuracy in driving, is power thrown away. A one-horse would be as inaccurate, and as much power lost—not *half as much.*

I notice various calls and hints in your journal, for western manufacturers to advertise their mowers and reapers. We have a few decidedly popular machines used in the West to the exclusion of several uncertain kinds. Each of us have a few spots in which we can sell all we make, and in these our advertisements are abundant. We sell at wholesale to parties in these spots, and they advertise, keeping extra pieces to supply their respective regions.

We build the best "combined" reaper and mower used anywhere in the world; yet I would not advise a man living where they are unknown to buy one, but rather to get such as are in use, and easy to procure duplicate pieces. J. R. S. *Fort Wayne, Ind.*

REMEDY FOR CRIB-BITING.

I believe I have discovered a remedy to prevent a horse from crib-biting in the stable. I have a very valuble pair of brown driving mares, one of which had become a confirmed cribber, and I tried all remedies that I had heard or read of, and I went to considerable expense and trouble to prevent this habit, but to no purpose. Finally I thought I would try and invent something myself, which would be of advantage to me in this respect. It is a very simple process, viz., to get a piece of thin iron, or an old wheel tire, say 1¾ or 2 inches wide, and raise it in a parallel position about an inch above the edge of the front and back side of the feed box, by fastening it at the ends and bracing it in the middle; and placed in this position the animal has nothing but the sharp edges of the box to catch hold of. And I assure you from three to four months experience, that you will find this remedy effectual. JOHN P. HUTCHINSON. *Chester Co., Pa.*

Butter from Three Cows---Dairy Management.

MR. JOHN SHATTUCK, a very successful Dairy farmer of Chenango Co., who has received a number of prizes upon the excellent quality of his butter, believes that it should be made in larger quantities per cow than the general average, as well as of better character. He has heretofore contributed for the COUNTRY GENTLEMAN statements of the product he obtained, as for example, an average of 190 lbs. of butter in 1860, for each of 22 cows, 1 three-year old heifer and 7 two-year old heifers, (which he considered equal to 212 each for the full grown cows; and in 1861 an average of 223 lbs. each for 23 cows. He now writes us, under date of Jan. 9th, 1865:

I would state in the first place that we had the most scorching drouth the past summer I ever knew; the pastures were literally without green herbage from July 1st to Aug. 20th; hence the yield of milk was much reduced. I have talked with a large number of dairymen, and they estimate the quantity from one-fourth to one-third loss than usual, in consequence of this. Having disposed of my entire lot of dairy cows in December, 1863, I found it necessary last spring to purchase some cows or break up house-keeping, and concluding to continue the latter, made a purchase of three cows; one of them dropped her calf about the 20th of March, one of the others about the 10th of April; the other one had come in when I bought her, about April 10th, and her calf was sold. The cows were fed about two quarts of corn meal, (ground in the ear,) each, daily, until they went out to grass, and after that nothing except grass until the fall, when they were fed one wagon load each of pumpkins, and since foddering time what good early cut hay they would eat.

Total amount of Butter made.

Sold,	505 lbs.
Used in family,	165
On hand,	80
Total,	750 lbs.
505 lbs. sold for	$240.00
Used in family at 50 cts., 165 lbs.,	82.50
On hand at 50 cts., 80 lbs.,	40.00
Growth of hogs,	40.00
Two deacon skins,	2.00
Total amount,	$404.50

I do not wish to be understood as boasting of the above yield, but simply give the statement for the benefit of those dairymen who are satisfied with a yield of from 120 to 150 lbs. of butter from a cow. I have contended for a long time that no man should be satisfied with an average yield of butter from a dairy with less than 200 lbs. from each cow. A few hints in regard to management of cows, breeding, &c., and I will conclude this already too lengthy letter.

I think if farmers in the dairy districts would give a little more attention to the breeding of cows for their milking qualities, they would be greatly benefitted, as I consider it a very essential point to be attained. If one-half of the dairymen would sell about every fifth cow, so that the balance could have all they want to eat, another good point would be attained; if in making purchases they would reject all the poor ones, another essential point; and in cutting hay for milch cows they would cut early, cure well, and my word for it, it will pay. Good shelter in frosty nights and cold fall rains, moreover, is not bad treatment for cows. JOHN SHATTUCK.

We shall be glad to hear farther from Mr. S. on the subject to which he refers.

Eggs in Winter---How to Secure a Supply.

I recently received a letter from J. C. Thompson, Esq., of Tompkinsville, Staten Island, in which he mentioned having a liberal supply of eggs throughout the month of November, from his fowls, which are of the Brahma Pootra and Leghorn varieties.

Every poultry raiser knows how rare it is that hens lay liberally during that and the succeeding months of December, January and February, and I made inquiry of Mr. Thompson in regard to his management of fowls, to secure such desirable results. In a letter written me on the 6th day of the present month, he said, in reply to my inquiry—"I have confined in one lot, thirty Brahma hens and pullets, and they have laid in this month, including to day, (six days,) 82 eggs. In regard to 'how I manage to get so many eggs,' I will tell you what I do. Feed and *clean* water within their reach constantly, also shells or bones pounded, or old mortar; grass, cabbage or other vegetables, of which they are fond, boiled potatoes, turnips, or the peelings of them, and scraps from the table daily. The potatoes and turnips boiled with coarse Indian meal, or corn and oats ground together, and fed cold or partially so, *never hot;* scrap meat that comes from the tallow chandler's or pork butcher's in cakes, is good; make a hole bason-like, into a cake, and fill it with water, which affords them drink and softens the scrap so as to make it palatable to them. When they have picked it to pieces, soak or boil the refuse with meal, and feed it the same as the potatoes, &c."

In addition to this, Mr. Thompson gives his fowls warm, clean and airy quarters, as I know from observation. The concluding paragraph of his letter, quaint, though practical, is as follows: "Remember that hens are only *machines* for making eggs, and like the mill for making flour, if the grain is not put into the hopper the flour will not come out." As the grain is to the hopper, so is the feed, water, vegetables, lime, pounded shells, bones, &c., to the hens.

Mr. Thompson breeds but two varieties of fowls, the Brahmas and Leghorns, and those with great care and in their utmost purity. The latter were long his favorites, but he now considers the former, for all purposes for which domestic fowls are kept, superior. K.

Newton, N. J.

BRAHMA POOTRA FOWLS.

It is now nearly three years since I commenced keeping the Brahma Pootra fowls, and my experience with them has been of a most satisfactory character. With other breeds it was very unsatisfactory, and my publicly expressed opinion is, that for general purposes no known fowls can equal them. I secure an excellent repast for the table, their flesh being white, tender and juicy, with a flavor which I do not think would be objectionable to the most fastidious palate; their eggs are large and very rich, and like most Asiatic fowls, more or less buff-colored. They do not lay all their eggs in the spring and summer, but very regularly throughout the year.

The general complaint from persons who keep fowls is, that they fail to obtain a supply of eggs in the winter season. Their hens lay well enough in the spring when eggs are plenty, but what they want is a fowl that will lay eggs in the winter, when eggs are scarce, for thereby a large amount of the expense of keeping throughout the year is saved, and you are not annoyed with breaking stale eggs. I can assure your many readers that my individual experience, together with the experience of many of my neighbors, proves that the Brahma Pootra fowl possesses this highly valued quality of laying in winter.

I keep about twenty-five hens; my mode of feeding is nearly as follows: A supply of grain, (corn, oats or barley,) is constantly kept within their reach; oyster shells always obtainable; fresh spring water of its natural temperature in the warm season, and luke-warm water in the winter; after cold weather sets in, and bugs and worms are not to be had, I give as often as twice a week, pork and beef scraps, or meat cut fine. They are housed in a warm and comfortable house, frequently white-washed throughout; clean nests, plenty of ashes for a dust-bath, and attention sufficient to see they are comfortably cared for, and I have no lack of eggs throughout the year.

They are not the greedy and voracious feeders many would have us think: their habits are such they will oftentimes lie for hours in a cool, shady place in the summer, and bask in the rays of the hot sun in the winter; they do not require the large amount of food so necessary for those breeds which keep a continual scratching, and are never at rest except when on the roost.

The credulity of some people is beyond comprehension; but the credulity of those who believe they can obtain a good supply of eggs from fowls half starved, with no comfortable habitation, and no attention to their comfort or other wants, is a weakness which only time will overcome; and you may rest assured time will do it, for "experience makes fools wise," and if by losing, they gain knowledge and wisdom, then are they gainers by the loss.

I should just as soon think of getting a good day's work from a laborer who had been deprived of the necessaries of life, and reduced to a trembling weakness, as to obtain eggs from hens in a similar condition. The inference is clear; attend to their wants, and you will have the gratifying assurance that they appreciate your attention, by the large numbers of eggs you will find in your daily round to their nests. O. H. Peck.

Melrose, Mass., Nov. 26, 1864.

DUTCH OR COTTAGE CHEESE.

Put a pan of fresh, thick milk over a moderate fire. Let it remain until the whey is separated—care being taken that it does not boil. Drain off the whey; add salt to your taste—also cooking soda in the proportion of the size of a pea to six quarts of milk. Mix with good thick cream (sweet or sour) or cream and butter, and make up into balls for the table. The whole process will occupy about fifteen minutes.

Excelsior Rice Pudding.

One cup rice swelled; one quart milk; yolks of four eggs, one nutmeg. Sweeten to your taste. Bake the above one hour. Then beat the whites of the eggs to a stiff froth with white sugar and spread over the top. Bake the whole one minute. Serve hot or cold as you please.

The foregoing receipes you can recommend with confidence, for they have been in use in our family for several years. They were *invented* by Mrs. P. P. B., but *not patented.*

THE FARMER'S PUDDING.

Take four heaping tablespoonfuls of fine corn-meal; three large spoonfuls of wheat rusk, finely pounded, and soaked one or two hours previous to mixing with the meal; add three-fourths teacupful of good molasses or syrup, a little salt to season, and a cupful of sweet cream, or butter the size of a small hen's egg; put in carbonate of soda, if at hand, size of a large pea, pulverized. Stir all well together, and just as it goes into the hot oven, pour in a half-pint of sweet milk, and stir again. Water will answer instead of milk. We think you can enjoy this as a dessert. S. W. J.

PUERPERAL FEVER IN COWS.

Messrs. Editors—As an evidence of the value of agricultural publications, and a refutation of the assertion so often made by the ignorant and unthinking, that book-farming is a humbug, and in gratitude for the benefit received, I wish to say through the medium of your paper, to its many readers, that I have saved a valuable cow through instruction derived from Dr. Dadd's book on the Diseases of Cattle, and "Youatt's and Martin's Cattle Doctor."

The cow was first discovered to be ill on Sunday morning, the 6th of the present month, she having calved the day previous. On going to the stable to strip her out, she was found lying down and unable to rise, though making frequent efforts to do so. I at once consulted the above mentioned works, and found her case fully described under the head of Puerperal Fever. I adopted the treatment recommended chiefly by Dr. Dadd. Youatt and Martin recommend bleeding, but I regard physicking as being more philosophical, as well as more safe, especially so in the hands of the inexperienced.

The symptoms of her case were as follows: Frequent but unavailing attempts to rise—the weakness seeming to be in her hind parts,—turning her head to her left side, looking wildly about the eyes, breathing very quick, together with heaving at the flanks, muzzle dry, and she took no notice of her calf.

The treatment was 1¼ pounds of Epsom salts for the first dose, and eight hours later, no evacuation having taken place, ¾ of a pound more were given with a like result. The third dose was given some ten or twelve hours after the second, and consisted of a pint of raw linseed oil; some 24 hours subsequently half a pint more of the linseed oil was given, and still later ¾ of a pound more of salts before anything much could be got to pass her bowels. In the mean time, several injections of strong soap suds were given, which I think aided very materially in effecting a passage. It will be seen by the above that I did not follow strictly the direction given in the book to repeat half the first dose every six or eight hours until an evacuation is had; had I done so, the desired result would no doubt have been obtained much sooner. A wash of strong vinegar and salt was applied warm to her back and loins, and strong ginger tea was given at times when she was bloated, in consequence of the gas generated in the stomach by the food remaining there undigested. The result is I have saved a cow for which $80 was refused a few days previous to her sickness. A few years ago we lost two cows whose symptoms of disease were the same precisely, and had I possessed then the information which I now do, I have no doubt but that I could have saved them. One of them was the best milker we ever owned—giving one season 23 quarts of milk per day for 26 days in succession.

Perhaps there is no branch of agricultural knowledge in which farmers are more deficient than in that relating to their domestic animals. Hence the barbarous treatment usually resorted to of the docking of tails, and boring of horns, and forcing down the poor animal chunks of salt pork to give her a cud, &c., all of which is generally useless, besides inflicting needless suffering on the poor dumb beast. A more enlightened treatment would save many a valuable animal to its owner, and thousands of dollars annually to the country at large.

Should any one not have either the salts or linseed oil at hand, slippery elm tea made very strong might answer a good purpose; as a friend informed me a few days ago of a man who had a lot of cows get into his barn and gorged themselves with grain which was threshed and lying in a heap upon the floor. The man thought he should lose the whole of them. My friend directed him to boil up slippery elm bark very strong and give them. The result was that every animal was saved. J. W. Fowler

Peekskill, Westchester Co., N. Y., Nov. 16, 1864.

GUANO.

Last spring, upon the recommendation of an excellent practical farmer and gardener, I was induced to obtain for trial a few hundred of ammoniated guano, and accordingly applied to Messrs. George Davenport & Co. of Boston. for the article. The season was so far advanced when it reached me that I had no opportunity of trying it in the hill for corn, but experimented with it as best I could, and though the season was unfavorable in consequence of an unparalleled drouth, to the highest success of any late sown manures, the results from the guano were very marked, so that I am confident of doing the cultivators of the soil some service by relating them.

The soil on which my experiments were tried is a loam inclining to clay, and underlaid by limestone. From the nature of the underlying ledges, broken by many fissures, the land is sufficiently dry for any practical purpose of cultivation, it being dry enough to work well in a short time after the heaviest rains.

My application of guano to corn was after planting, by putting a tablespoonful around each hill where the experiment was tried. The effect was to give a deeper green color to the blades, and push forward the growth. The part where the guano was applied gave the heaviest growth of both stalk and ear.

It was applied to potatoes by putting the same quantity in the hill, after the potatoes were dropped, but before they were covered, care being taken not to have the manure touch the potatoes. They gave a remarkable fresh growth of tops, and the yield was excellent.

The effects of it sown broadcast on grass and grain was such as to commend it for general use.

For turnips it showed a decided improvement. It made large, tender roots, all remarkably free from the depredations of insects.

I found it excellent as a garden manure, not only from its fertilizing effects, but from its freedom from the seeds of weeds. The produce of pompions, squashes, melons and cucumbers was largely increased where it was used. Its effect on fruit trees was such as to entitle it to commendation.

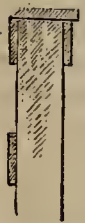
How favorable it may be in its effects, having used it only one season, I am not prepared to say, but if it continues only for a year, it is well worthy of more general use, especially for root crops and for gardens.

I have heard many complain that guano burnt up their crops, and denounce its use in consequence. This is all owing to a misapplication. In the hurry of business the guano is thrown upon the crop carelessly, and often, no doubt in parcels too large. In such cases it is not surprising if it proved too strong for the tender roots, and exhausted them. But when it is properly mixed with the soil no danger from such a cause need be feared, and the more thoroughly it is mixed, the more permanent will be its effect. *.

BUILDINGS AND FENCES.

The present high price of lumber deters many farmers from erecting new buildings or constructing new fences. This should not prevent them, however, keeping what they have in perfect repair. Unless constant vigilance is exercised, everything of the kind will become more or less dilapidated. During the frequent mild and open weather of winter, opportunity should be taken to examine everything of the kind. If boards that are becoming loose on fences are securely re-nailed to their places, it will prevent their being torn or falling off, and becoming broken. If a single board has dropped, it should be replaced immediately, before cattle or colts have been tempted to pass over, learning them to jump, and perhaps breaking down the rest of the fence. Nothing of the kind should be patched up in an imperfect manner. If a board is broken midway between posts, a careless nailing of the fractured parts together will not be likely to last long. Either procure a new board, or place another nearly as long as the distance between the posts against the broken one, and nail firmly to it. This may seem like a small matter, but as a single gap will let a hundred animals through, it should be promptly attended to.

Where fences are liable to be pressed against by unruly horses, they should be made stronger than usual. A very secure way is to nail two top-boards, one on each side of the post, and surmount the whole with a cap-board, as shown by section in the annexed figure. A fence thus constructed, and the cap board well nailed on, will be nearly as stiff as a stick of solid timber of the same breadth.



Barns often become open and out of order, and decayed, by simple neglect. If the boards become loose they are allowed to remain so until the winds rattle them off. They twist and curl up at the edges, and no pains is taken to replace them. The open cracks thus left allow the winds to sweep through to the discomfort and consequent want of thrift in the domestic animals which they are intended to shelter. Barns something like the one represented in the annexed figure, may be occasionally seen in various parts of the country, and have become so simply by the want of little attentions. The underpinning was hurriedly built or allowed to get out of order, and the sills consequently settled down and became decayed, and the whole building was distorted. Heaps of manure were allowed to accumulate around the bottom, and thus accelerated the decay. When a shingle was loosened, the rain passed in and rotted whole patches of roof around it. The distortion of the frame threw the doors off their hinges or caused them to sag and drag on the ground, soon reducing them to the appearance shown in fig. 1. This continued neglect is the only reason why this barn does not look so well as the one shown in fig. 2, which has been carefully attended to, and kept in good order.

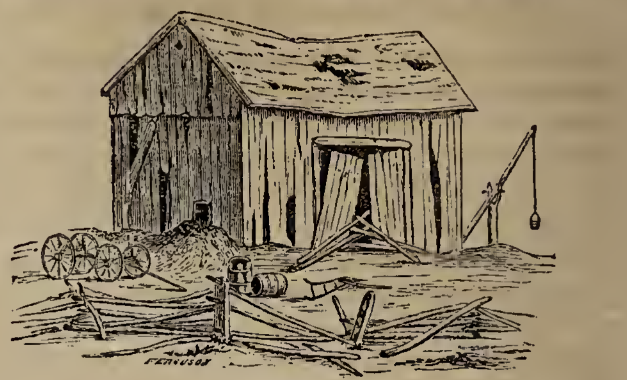


Fig. 1.

Some years ago we came into possession of a place on which a barn stood considerably resembling the one shown in the first figure, having been built over twenty years. The roof showed decided weakness in the back, and hung down in the middle, besides leaking. The vertical siding had in many places gaped open an inch wide, and part of the sills were rotten by contact with earth and manure. We were advised to throw this barn aside and build a new one, but concluded to repair it. It was raised a few feet from the ground by means of screws, new sills were inserted where necessary, and an underpinning seven feet high placed beneath them, thus giving a fine winter shelter or stabling for cattle. The old shingles were torn off, the rafters replaced in position, the timbers screwed straight, and the siding all around made perfectly tight by nailing on battens an inch thick and three inches wide, slit for this purpose. The cost of all these repairs was about one-third the amount required for a new barn. The underpinning, the barn being over fifty feet long, cost a little less than a hundred dollars—the sand being found on the premises, while the stone were drawn from the adjacent fields to their decided improvement. The battens did not cost more than one-fourth the expense of ordinary siding, while they gave the whole a neat appearance, and with the siding were stiffer than boards alone. The whold exterior then being washed with a mixture of waterlime, sand and salt, colored lightly with brown ochre, has nearly the appearance of a new structure, and is but little inferior in appearance to to the barn shown in the second figure.

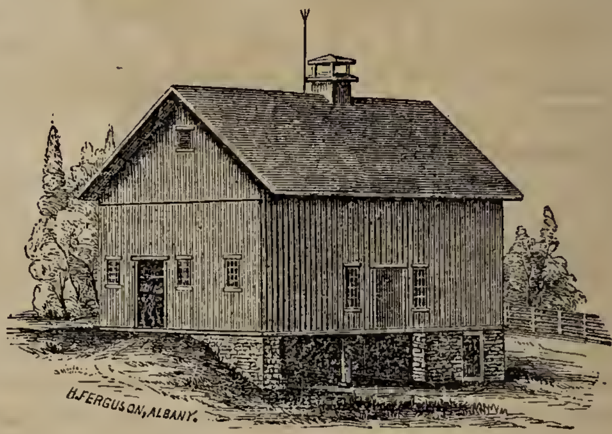

H.FERGUSON, ALBANY.

Fig. 2.

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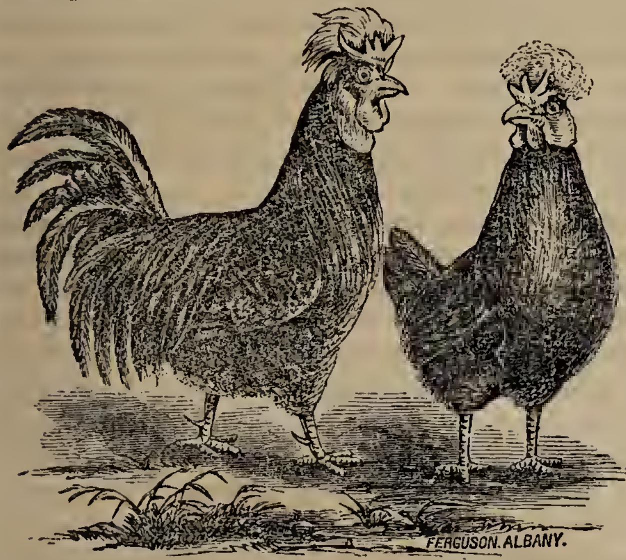
SOWING FLAX WITH BARLEY.

Some time ago I noticed a communication from J. A. McCollum, giving his result in growing these two named together, and last spring, having a suitable field, I tried the experiment, and can say with me the result was far more profitable than I expected. From ten acres of ground I raised 308 bushels of barley, which I sold for $2 per bushel, and from the same field got 58 bushels of flax, which I disposed of for $2.50 per bushel—making in all, $761, having the fodder besides. Now to all appearance, I could not detect that the flax injured the yield of barley in the least, and from this result I am disposed to try it again.

Buffalo, Dec., 1864. SYLVESTER JONES.

FRENCH FOWLS.

M. Lavergne, an able French writer, and author of a work on the Rural Economy of England, Scotland and Ireland, after admitting that England is far ahead of France in nearly every department of agriculture, says: "But France retaliates in another branch of animal products which is hardly second in England, but is very considerable with us—that of the poultry yard. We have done for our poultry, what the English are doing for their cattle, sheep and pigs. We have developed them with regard to precocious fattening and general tenderness; we have added to their fineness, whiteness and exquisite flavor."


FERGUSON. ALBANY.

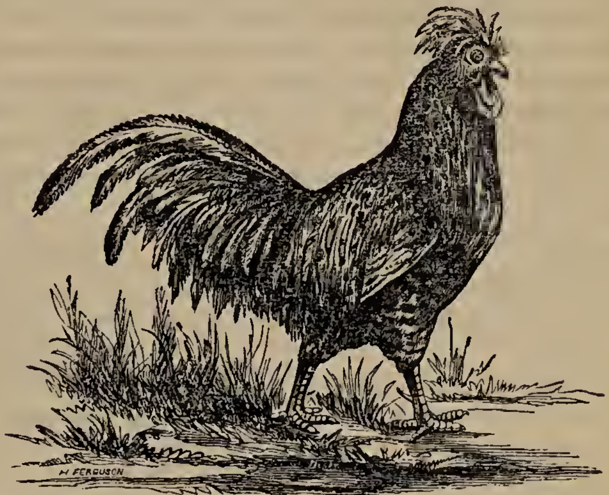
The Crevecœur Fowl.

The Crevecœur is considered one of the most popular breeds of French Fowls. For general utility it is one of the very best varieties, and in most general request for the table. The body of the cock is bulky, somewhat square, short and broad, and low on the legs; plumage dense and copious, the color black, with bronze, bluish, and greenish reflections on the neck and long feathers.

M. Jaque, an experienced breeder, says—"that this certainly produces the most excellent fowls which appear in the French markets. Its bones are even lighter than those of the Houdan; its flesh is finer, shorter, whiter, and more readily takes on fat. The pullets are of extraordinary precocity, since they may be put up to fatten at the age of three months, and they are ready for the table in fifteen days after. At four months old a fowl of this breed has reached its full perfection as to weight and quality. A poulard of five or six months attains the weight of six and a half pounds; a pullet of six months, fatted, weighs four and a half pounds dressed. It is this race which produces the fine poulards and pullets sold in the markets of France. Those of the Houdan race, although of superior quality, only come after them. The Crevecœur is the first race in France for delicacy of flesh, ease of fattening and precocity, and we believe that it is the first in the world in these respects. It is one of the best for crossing; all experiments go to prove that when crossed with the pure Cochin, or with the progeny of a pure Crevecœur and a pure Cochin, they produce a hardy race of large size and very delicate taste.

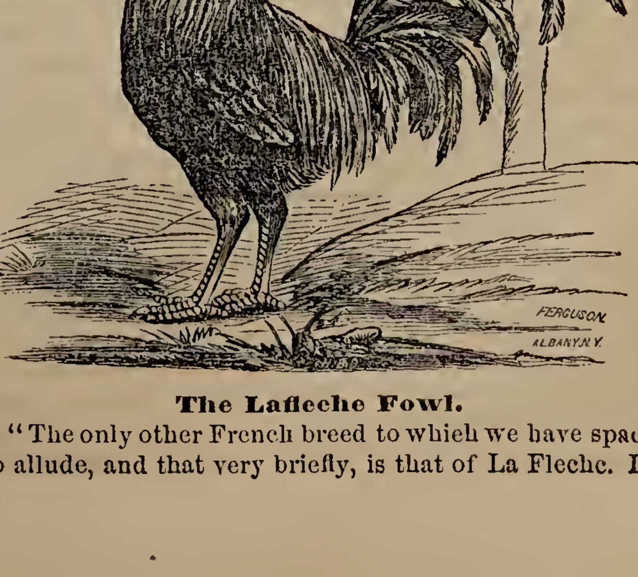
The hen produces large eggs, and is an excellent layer; in the comparative trials made in the Zoological Gardens, she was second in this report—but scarcely ever sits, and the eggs must therefore be hatched by other fowls. In many parts of France turkey hens are made use of for this purpose, as they can be taught to sit almost at any time.

The Crevecœur fowls are described as of very compact form, with small top-knots bearded, and with horned combs like those of the Polish, only very much larger. There would appear to be two varieties, since the hens are represented in one case as quite black; the cock also of that color, but marked with yellow on the back, neck and top-knot; the latter is a very heavy bird, weighing no less than seven and a quarter pounds; the hens bring four and a quarter. The eggs are large and white; legs unfeathered.



The Houdan Cock.

Another popular breed of fowls in France is the Houdan. It is reared and fattened on the farms around Nantes, and immense quantities are sent to Paris. The Houdan is to France what the Dorking is to England. We annex a portrait of a Houdan cock. The breed is somewhat above the ordinary size, with a round body well developed and set on short legs; plumage sprinkled with black; black white feathers. Like the Dorking they have five toes. Among the recommendations of this breed are the lightness of their bones and the fineness and bulk of their flesh. They are besides admirable layers. In the trials in the Zoological Gardens of the Bois de Boulogne, to determine which breed produces the most eggs, the Houdan stood third. The eggs are beautifully white, and of considerable size. Like all breeds that lay long and plentifully, the hens are not good sitters. The chickens are more easily reared than any other French breed, and are less inclined to wander and pilfer than most others.


LA FLECHE.
FERGUSON.
ALBANY.N.Y.

The Lafleche Fowl.

"The only other French breed to which we have space to allude, and that very briefly, is that of La Fleche. In an erect position the cock is the tallest of all the French races, the body appearing smaller than it really is, owing to the feathers lying close to the skin. The plumage is entirely black, with the occasional exception of some of the short feathers of the wings and tail being tinged with green and violet reflections; the head and wattles somewhat resembling the Spanish. They fatten very readily, and the flesh is of the best quality. Eggs good, and of remarkable size. As layers La Fleche stood fourth in the experiment trial; the Dorking coming next. The Nankin and Brahma Pootras, it will be recollected, stood first in this trial as the most prolific layers."

We are not aware of any of these French fowls having been imported into this country. The ridiculous hen-fever which raged so furiously some twenty years ago, had the effect of inducing a more general attention to the rearing and management of poultry. Though the rage for large fowls has in a measure passed, the influence of the big Asiatic breeds is still felt—and felt, we think on the whole, for good. They have improved the size, if not the quality of our common fowls, and given us better layers. There is, however, still room for improvement of our stock of fowls, by the introduction of new breeds; and the infusion of this French blood would, we think, give stamina and vigor to those breeds that have been weakened by in-and-breeding. The Dorking, for instance, may be improved by a cross with the Houdan or Crevecœur. C. N. BEMENT.

PIE AND OTHER CRUSTS.

MESSRS. EDITORS—I saw an inquiry in your paper by W., for a recipe to make a plain pie crust, and being rather partial to plain food, will send the one I generally use.

Take of lard and water equal quantities, and salt the lard if fresh. Then mix it with the flour thoroughly, adding the water afterwards.

If a richer crust is desired, roll a part of the same thin, and spread with butter, then roll together and use as an upper crust, taking the other half for the under crust.

Crust for Chicken Pie.

Take 1 pint of butter milk,
1 teaspoonful saleratus,
1 do. salt,
2 tablespoonfuls butter,
With flour enough to make a paste sufficiently thick to roll into a thick crust.

Paste for Dumplings and for a Stew, either Chicken or Veal.

1 pint milk,
2 teaspoonfuls cream tartar,
1 teaspoonful soda,
1 teaspoonful salt,
With flour enough to make a thick paste.

MRS. J. C. L.

THE FARMER'S PUDDING.

Take four heaping tablespoonfuls of fine corn-meal; three large spoonfuls of wheat rusk, finely pounded, and soaked one or two hours previous to mixing with the meal; add three-fourths teacupful of good molasses or syrup, a little salt to season, and a cupful of sweet cream, or butter the size of a small hen's egg; put in carbonate of soda, if at hand, size of a large pea, pulverized. Stir all well together, and just as it goes into the hot oven, pour in a half-pint of sweet milk, and stir again. Water will answer instead of milk. We think you can enjoy this as a dessert. S. W. J.

RECEIPT FOR SAUSAGES.

Your receipts for sausages came too late to try this year, but I don't think they would be quite as good as the receipt which my grandmother used, which is, for thirty pounds of meat:

Eight ounces fine salt,
Two and one half ounces pepper,
Two teacups sage,
One teacup summer savory.

Westford, Vt. M. P. S.

IMPORTANCE OF THE GRAPE.

The apple is universally and justly admitted to be the most important of all fruits. Its hardiness, productiveness, ease of culture, and long continuance—and the facility with which it is kept and ripened—all concur to place it first in general value. What fruit comes next? Some would name the pear; others the strawberry; while others again regard the peach, on account of its great excellence, and the facility and rapidity with which the trees are grown, as scarcely second in importance. Whatever present views may be on this point, there is no doubt that by the next twenty years, the GRAPE will be universally admitted to be second only to the apple. This opinion refers to its uses as a fresh fruit only, and not at all to its manufacture into another substance entirely unlike the fruit, both in its chemical character, and in its effect on the human system.

New varieties of American hardy grapes are yearly springing into existence, that possess considerable promise of permanent value and excellence; and by the lapse of another score of years, we shall unquestionably have a series that will give us good fresh fruit from a period soon after midsummer till the succeeding spring. We already obtain in the Northern States, fresh grapes from the end of summer to the latter part of winter, by means of the following varieties: Hartford Prolific, Delaware, Crevelling, Concord, Diana, Rebecca, Isabella, and others. The best keepers appear to be the Diana, Rebecca, and Isabella—to which may perhaps be added the Clinton, a variety not good enough to eat under ordinary circumstances, but which if kept till after midwinter, has its sharpness so softened as to become not only pleasant, but sought for its rareness at that season of the year. The Diana is remarkable for its freshness after several months keeping.

To the preceding list we shall be able probably to add the Adirondac for its extreme earliness,—preceding the Hartford Prolific, superior to it in quality, although requiring winter covering in the North. The Concord, possessing the several characteristics of great hardiness, productiveness, freedom from disease, and showy appearance, yet not of very high quality, may be partly displaced by the Iona and Rogers' No. 19—although neither of these new sorts have been sufficiently tried in different localities to insure them a permanent position, or to give all cultivators full confidence that they will not share the fate of such highly lauded fruits as the Peabody strawberry and Van Mons' Leon le Clerc pear.

There are now a large number of new grapes, raised both by cross-fertilization and otherwise, that promise to extend the period of ripe grapes to a greater length than at present. That period is now only preceded by the apple and pear. The apple now reaches through the whole yearly circle—or as Beecher expresses it, "it belts the year." The pear ripens from midsummer till spring; but it is hard to get good pears much later than the first of the year, while grapes are kept as easily as winter apples, although in a different way. The peach, in the north, continues to ripen scarcely two months at furthest—the plum about the same—while neither will keep long in a fresh state. The hardy grape will yet give us a delicious fruit,—remarkable for its wholesomeness, in unlimited quantity if we desire it, scarcely if ever failing with seasons,—not less than eight out of the twelve months of the year. The "grape fever" will not, therefore, subside quite yet.

BEE HIVES.

Hives should be made in winter. If they are to be painted, it should be done some months previous to using them, that the offensive smell of the paint may pass off before introducing the bees. Swarms put into newly painted hives, especially dark colored ones, are quite apt to leave. Let the color be light, but not a clear white. It is well to alternate different colors in the yard, that the bees may more readily recognize their own hives. It is yet an open question whether painted hives are desirable. Were it not for their improved appearance, it is doubtful if the advantages would balance expenses and losses incident to their use.

But what kind of hive shall be made? The wants of the bee itself are few and simple. A barrel, box or any cavity which will hold combs for brood and winter stores, is all it demands. In ordinary seasons, a colony will store in such a place, more than is needed for winter consumption. But with this primitive arrangement, the best stores are mixed with pollen, decidedly an unpleasant compound to most persons. Hence the necessity of some contrivance by which to separate the bitter from the sweet. When it was ascertained that a partition in the hive, with holes for communication, would keep the honey separate from the pollen, an important discovery was made. Here was a fruitful field for generations of patent venders. Each had a new form of division, or a new shape for the passages, and all are more successful in obtaining patents than in anything else. In many of these, there is nothing detrimental to the bees, which is often the most that can be said in their favor. And to charge from $5 to $10 dollars for the privilege of using such, is ridiculous, if not unjust. I never saw a patent vender of this description who did not aver that enormous quantities of honey could be secured by using his hive, all to be attributed to the peculiar screw, button, or cross-stick, upon which the patent happened to be based.

Bees will store *most* honey when they have but one apartment of a size that will just be filled by the end of the season. When this is divided, and the bees have filled one and are forced into another for want of room, they will lose a little time before commencing in the second. The greater the length and the less the number and size of the passages, the longer the bees will be in commencing work there. Hence, to obtain the largest amount of honey, the passages must give ample room for the bees. But if this is carried to an extreme, the whole partition will be taken away, and the original objections again arise.

The *greatest* amount of surplus can be obtained by placing the boxes directly on the frames of the movable comb, or on the slats of the cross-bar hive, where the heat generated by the bees below will keep them warm; but this honey is not always of the purest quality. By laying strips of wood a quarter of an inch square upon the frames cross-wise, a great difference in the purity will be observed. These ends can be secured with the common box hive, as well as with the most costly patents.

To secure the surplus honey in good form and quality is the fundamental principle in all bee culture, and all patents, of whatever form or purpose, must be subordinate to it.

The bee-keeper has often noticed that some of his hives have more honey than necessary for winter, and at the same time that others have but a partial supply. He has wished to be able to transfer some of the surplus to those deficient. His bees have over-swarmed, sending out many small ones not worth hiving, and reducing the old stock to ruin. How can he remedy this? He has reason to suppose a queen is lost. Is there no way to ascertain without taking more trouble than the stock is worth? A colony has filled its hive, and many of the bees are crowded outside, losing valuable time, yet refusing to swarm in season. Is there no safe way of dividing the bees and making another swarm that can be at work? Mr. Langstroth has given us a movable comb hive with which all these and other operations can be performed. Many others, following in the path he has opened, have patented a variety of forms, some of which are no improvement.

The question, Will it pay? should be discussed and answered affirmatively before obtaining this hive. It is not claimed that bees will work faster in this than any other hive. Very much depends on the person who has control, and the number of stocks to be managed. On one side there is the cost of the right and increased cost of construction. On the other is the convenience of readily securing the advantages just mentioned. If a man know too little of the natural history of bees to take advantage of even a part of the facilities offered by movable combs, he had better be content with the simple box.

To winter bees successfully it is necessary to keep them warm, and at the same time dispose of the moisture always generated in the hive. Several patents have been granted for particular openings, and the manner of condensing the moisture, which are no improvement on the box hive with the holes left open in the top. Some are made with double walls, enclosing a dead air space. This retains the warmth, but does not get rid of the moisture. Straw is valuable in absorbing moisture and retaining heat, and bees will winter in the open air in the best manner possible in hives made of this material. Corn cobs are highly recommended for the same purpose, but unless they are superior to straw, the trouble of preparing them will be so much more that they will be rejected. From the thousands of little air cells in the leaf of the cat-tail, this would seem to be even better material than straw or cobs. The conical shape of the old fashioned straw hive is not adapted to improved bee culture, and if straw is used, some of the new forms should be adopted.

Nearly if not quite all other pretended conveniences in a bee-hive are balanced by a corresponding evil, perhaps created by this very convenience. I advise bee-keepers to generally avoid patents, and adopt hives with reference to *quantity*, *quality* and *form of surplus honey—facility of operating with the bees, and advantages for winter ventilation.* M. QUINBY.

St. Johnsville, N. Y.

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MILK GRAVY.

The principal food of numerous families in the United States, consists of fried pork, pork fat, bread, and potatoes. Fried pork, in particular, mounts the table. Three-fourths of those who use the fat fried out of the pork for gravy, could easily furnish milk and cream, and form a dish much more luxurious, without any additional expense.

Add cream to your milk, if you have it, and make your gravy; firstly, take out your pork from the fry-pan, as soon as well done through, and all the fat except about two or three table spoonfuls. Wet up a large spoonful of flour with cold water. Stir this into the fat while hot, and in a few seconds add your milk, two cupfuls or more, and stir the whole together; let it boil about five minutes with the pork in it, or not. This makes a healthy and palatable gravy. Clear pork grease is bad for the system when used in daily food. It tends to scrofula. S. W. J.

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Some persons put a great deal of money in stocks who should be put in the stocks themselves.

HEN MANURE AND NIGHT SOIL.

"L. R. T." of Oneida, N. Y., wishes, in your paper of Jan. 5, to know how to prepare and apply hen manure, and I give below my method of doing so for years past.

Take good soil from the surface of a field, or woods earth, and put it under cover, with which compost the hen manure at the rate of one bushel of manure to twenty of earth, adding thereunto the contents of all the privies and the chamber lye from the house daily, with a liberal allowance of ground plaster, and the spent ashes of the farm.

A month before using, cease adding to the heap, and turn it up once or twice a week, carefully breaking all lumps with the shovel. It will lose all unpleasant smell, and my men do not object to dropping it in corn hills with their hands or sowing it along turnip rows, &c.

As soon as one heap is finished, I begin another, and never fail, when planting time comes round, to have enough compost to give eighteen acres of corn a vigorous start, and some left for turnips and other vegetables. I think it much superior to anything I can buy—and it is made up from materials which are sadly neglected on many of our American farms. Try t, for it will repay all its cost. J. G. W.

Burlington Co., N. J.

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INDIAN CORN AND POULTRY.

Raising corn and poultry occupies a share of my time, and makes a very prominent item in my profits, as well as those of the farming fraternity at large. I propose to give some ideas, as well as experience, in managing and producing these two necessaries as well as luxuries of life.

It has been doubted by a large share of the producers of corn, whether it was judicious to manure corn in the hill with common barn-yard manure. If the season should prove wet enough, it would urge the crop forward to an undue growth of stalks, and being stimulated to grow in the earlier part of the season; but about the time for the ears to set and grow, the roots of the corn have got far beyond the manure, having previously absorbed most of the strength of the same, thereby causing a large growth of stalks and a diminished quantity of corn.

I have manured corn in the hill in this way, and the season proving dry, I was satisfied it was a great injury to the crop; but if people would begin far enough in advance of a crop of corn to prepare the ground, apply manure without stint to make the corn grow whether the season proved just favorable or not, they certainly would have a fair crop if well attended to, but with the addition of some extra fertilizers in the hill to give it an early start while young, and the season not very warm, would add very much to the amount of corn raised. This extra fertilizer I believe almost every farmer has within his own reach, in the form of hen manure. I speak from my experience and the experience of my neighbors, that I shall be confirmed in saying that if a warm dry hen-house is prepared with facilities for saving all the accumulations from the fowls, and they being fed with an ample supply of corn for the year, and their manure judiciously applied to the corn in the hill, that there would be enough extra raised to feed them another season from the effects of their droppings.

As there has been considerable discussion as to whether poultry-raising was profitable, I think if farmers would experiment on this application, they would realize a profit in a two-fold ratio. Their corn crop would be more remunerative, and when feeding the fowls they would be better satisfied to feed liberally, regarding them as co-workers for profit, and not as pests on the farm. As it makes from one to three-quarters difference whether labor is well directed or not, it would seem as if the farmer's interest would stimulate him to avail himself of every opportunity to improve, both from observation and agricultural reading. I have sometimes thought that if farmers would take as much interest in trying to improve themselves and their farming interests, as do many editors of our best agricultural journals, they would be amply compensated by realizing a certain independence and well lined pockets. D.

Saratoga, N. Y.

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AN UNPATENTED HORSE-FORK.

Messrs. Editors—If you think proper please insert the following in your valuable journal, and you will enable me to pay a debt of gratitude to J. L. Ingalsbe, for his truly brotherly feeling in giving to the patrons of the Co. Gent., the full and concise description for making the unpatented horse-fork of his invention, as found in the Co. Gent. of March 31st and April 7th, 1864.

Immediately on getting his plan I set to work to make one, and had it ironed off according to directions, and as we made our own ropes and pulleys, it would bring the cost of the fork within Mr. Ingalsbe's estimates.

We used it through the last haying season, and it worked to our entire satisfaction; in fact the best of any I ever saw work—and would say to those who have not got a horse-fork and need one, get Mr. Ingalsbe's plan, and like us, be benefitted many times the subscription price of the Co. Gent.

West Perth, Dec. 16, 1864. J. H. SWOBE.

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ONE-HORSE MOWERS.

Messrs. Editors—In my Country Gentleman of Dec. 8th, "Populi" asks you or some of your "mowing machine correspondents," why there are no one-horse mowers in the market? With your permission I will inform him that there is one—and it is a *real* one, in the sense he uses the word, in size, weight and draft. It was got up especially for that class of farmers whom "Populi" mentions. Several of them were used in my town the last season, and some in a neighboring town. Two mowers were drawn by horses not weighing nine hundred pounds, and one of them not over eight hundred and fifty pounds. The owners told me it was not hard work. It cuts three and one half feet wide, and a fair walking horse will mow an acre an hour. This I am told by those who have tried it.

A boy, medium size, fifteen years old, run one all the time. His father told me it spoiled all the boys in the neighborhood, for mowing by hand. We have used a two-horse mower in company with a near neighbor, for two seasons past, but shall sell it and get one of these, as we keep but one hoase; then we can do our own haying in our own time.

There is none of that stiffness about it which many mowers have, it being flexible in all its parts.

Last season was the first of its manufacture. All the mowers sold which were made, and gave unbounded satisfaction, as many letters I have seen show.

It will be advertised in the Country Gentleman the coming spring. Its name is Cayuga Chief, No. 4.

Sidney Center, Maine. J. S. GRANT.

MANAGENENT OF POULTRY.

Messrs. Editors—I have long thought of writing you some account of my experience in keeping hens. I believe that I have learned some things within the last three years, that I had never thought of or known before.

Hens fed on corn when they run in the fields, will generally do well enough, but I often hear the remark that hens confined in narrow limits, and fed with all the corn they will eat, do not continue to lay well, do not pay the cost of keeping, and my own experience confirms these statements.

Living in the village, where it is not proper that hens should run at large, I have kept mine mostly confined in a small barn for shelter, and to roost and lay in, with a small yard attached for them to run in, and think I have succeeded wonderfully in getting income from them.

For feed, I use buckwheat hulls and shorts of wheat or buckwheat. I take half the bulk I wish to feed at one time, of buckwheat hulls, and pour enough boiling water upon them to saturate them well, and let them stand a short time; I then take an equal bulk of shorts and mix it thoroughly with the hulls, and feed warm; they need no other watering; food prepared in this way serves for food and drink. The cost, three years ago, when feed was at ordinary prices, was from two to three mills per head per day.

This manner of feeding is a natural one. Hens that run at large, fill their crops with a large share of light stuff, almost anything but solid food. When they are confined, they cannot get such food unless it is fed them, and it is difficult to supply them, as they get it when they run out. I think the hulls supply that want better and cheaper than anything else that I know of. If I had a machine to cut grass, or turnip and cabbage leaves, or almost anything a cow would eat, mixed with shorts, it might answer about the same purpose.

From twenty-eight hens, I got, in one year, three thousand eggs, besides hatching over one hundred chickens. I think I did not fail, any day, from some time in December, until I disposed of the hens the following fall, to get more or less eggs.

To accomplish this result, you must have pullets hatched as early as April. Sometimes those hatched in May will do, but they will not begin to lay quite so early. I have a pullet, hatched about the last day of April, which has laid thirteen eggs in the last fifteen days. She has been kept confined, and kept and fed the same as my old hens, since she was old enough to do mischief in the garden.

Old hens, or late pullets, will not lay much in the winter, if any.

My hens are of no distinct breed, but have enough of Chittagong blood crossed on the common stock to give good size.

Lately, I have been quite successful in breaking hens of the inclination to set, by tying a piece of scarlet cloth to the end of their tail feathers. A bit of waxed thread will hold it fast. Jacob Powers.

Brandon, Vt., Dec. 1864.

LICE ON FOWLS.

It is almost impossible in the "best regulated families" of fowls, to be utterly exempt from those little perplexing pests, "lice."

I have tried various remedies with partial success. Of all the remedies I have tried, I have found kerosene oil the most efficacious. Have used it in several instances, and it has invariably produced the desired effect, which was complete extermination.

I have applied it very freely, and have never perceived any injurious consequences to the fowls, resulting from its use. O. H. Peck. *Melrose, Jan.* 7, 1865.

SWEET POTATOES AT THE NORTH.

Having for many years entertained the opinion that sweet potatoes could be successfully grown at the North, I sent last spring to a person who has supplied the public for many years, to forward me plants enough for one-quarter of an acre. On receiving these plants I found that they had been, from accident or otherwise, exposed to wet, and consequently were so damaged by rotting as to be entirely worthless. A few of the best were selected and planted, not one of which lived. I then sent to New-York twice, and succeeded in obtaining, at an exorbitant price, enough to plant five square rods of ground. From the subsequent appearance of the potatoes I think they were of the Nansemond variety. They were planted in a light, rich soil, it being an abandoned asparagus bed. Two furrows were thrown together by a horse and small plow, forming ridges three feet apart, which, after being raked and smoothed off, were set with the plants singly along on the the two sides of the ridge in quincunx form, about eighteen inches apart. This was during the first week in June. Very little attention was paid to watering the plants, but after a few days they became established, considerable many however previously dying out. Then followed a severe drouth, commencing about the 15th of June and lasting until the 25th of July. They struggled through this protracted drouth, were hoed and hand-weeded twice, and after the rains in August set in, soon covered the entire space, some of them running fifteen feet. Some weeds made their appearance above the potato vines late in the season, and were pulled up. October 10th a heavy hoar frost killed the vines while they were very green. From this piece of ground I dug ten bushels of potatoes, three of which being too small for family use, were reserved for seed. The remaining seven bushels were good sized potatoes and sweet, but a little heavy in cooking; in all other respects fully satisfying me with the experiment.

In some parts of the drills the plants were very much thinned by dying out during the drouth. These thin spots did not produce potatoes perceptibly larger, while those which stood at regular distances of eighteen inches yielded double the quantity.

From this and former trials I am induced to believe that sweet potatoes may be grown as far North as this, with at least as good an average yield as the generality of other sorts, and with far greater certainty.

Having the entire summer in which to complete their growth, an occasional drouth will not materially injure them. R. M. Conklin.

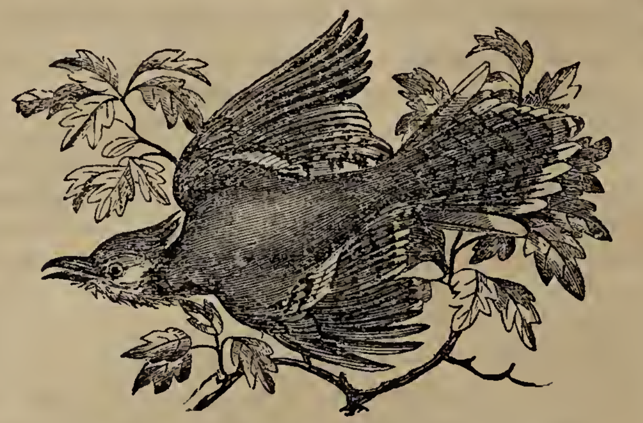
Cold Spring, L. I.

TO MAKE CIDER VINEGAR.

To 15 gallons of worked common cider, put 3 quarts of molasses, 15 gallons of water, boiling hot. Stir the switchel well among the cider, and in about ten days it will be fit to use. Leave the bung open. J. B. *Newark, N. J.*

How to Make Metheglin

Answer to "Sallie," in Co. Gent. of Dec. 29, 1864: Dissolve honey in water till it will bear an egg; boil it until the scum is all removed, then bottle, and it is ready for use. Anna. *Ulster Co., N. Y.*



BLUE JAY---*Cyanurus cristatus.* SWAINSON.

This well known bird exists in nearly every portion of the United States. In Florida, however, the Florida Jay, (*Cyanocitta floridana*, BONAPARTE,) takes its place, and in Canada it is also replaced by the Canada Jay, (*Perisoreus canadensis*, BONAPARTE.)

The Blue Jay, unlike most other birds, is capable of living in either cold or warm climates. Thus we find them as perfectly at home in Louisiana as they are in the somewhat colder climate of Maine. And yet they have been known to spend the winter as far north as Maine, and the summer in Louisiana.

The food of the Blue Jay is very varied. He may be said to be omnivorous with perfect truth. All sorts of flesh, seeds, and insects, are alike acceptable to him. Ripe chestnuts, beech-nuts, acorns, apples, pears, and green corn, are all favorite food. In case of need, however, he feels no hesitation in resorting to carrion, or if this be not near at hand, catching and killing some harmless sparrow or other small bird upon which to satisfy the cravings of his appetite. He displays considerable ingenuity in eating hard nuts. He takes them in his feet and retires to some fence, where he places them under a splinter or in a corner, and fixed in a firm position hammers at them until he succeeds in reaching the kernel.

GRAFTING THE GRAPE.

LUTHER TUCKER & SON—I noticed an inquiry from A. S. MOSS, in the CO. GENT. for Feb. 11, 1864, in reference to raising Delaware grapevines from cuttings, and grafting the vine. I have had good success in grafting the Delaware. I have a Delaware graft, set one year last April, that I gathered one peck of grapes from this fall—one vine that was grafted two years last April, that I picked a bushel of Delaware grapes from this fall; the first was on a seedling root—the other on an Isabella root.

Method.—I remove the dirt from the vine for six inches in depth—cut it off about 4 inches below the surface, and cleft craft as you would the apple—tie the scion to its place with strips of cotton factory, and press the dirt firmly about the stump and scion; and then fill in carefully to the second bud on the scion, covering with a little straw for mulching. During very dry weather it will want watering.

One case of my best luck was a growth of 24 feet of vine and two bunches of grapes the first season—that one was set for your subscriber to the CO. GENT., Jas. A. Graves.

Any one who can graft an apple tree can graft a grapevine—the difference is that he must dig down about six inches for the stock to set his grape grafts.

Tioga Co., N. Y. J. J. S.

Judicious and Profitable Farming.

I saw in your issue of the CO. GENT., p. 377, vol. xxiv., a request, over the signature of J. L. B., for the discontinuance of your paper, and the reason assigned for it, which opened up to my view the history of my experience.

When I commenced trying to farm it I had but two cows upon about 60 acres of land. I mowed all the land not pastured, and having no barn to put it in, I made one small stack, which, to a very large extent, was Johnswort and mulleins. I set myself to work under the influence of the principles advanced in Jesse Buel's paper, THE CULTIVATOR, being a constant subscriber for that paper during his time, and to the COUNTRY GENTLEMAN during your administration to the present time. I am now able, and have been for some years, after having added some 25 acres more, to keep one cow to every two acres, besides teams—or one cow to every three acres, and sell some $200 worth of hay.

The secret of my success has been feeding judiciously and husbanding and applying all manures created by feeding, with thorough cultivation; and so long as I continue farming, so long I am in hopes of having the COUNTRY GENTLEMAN.

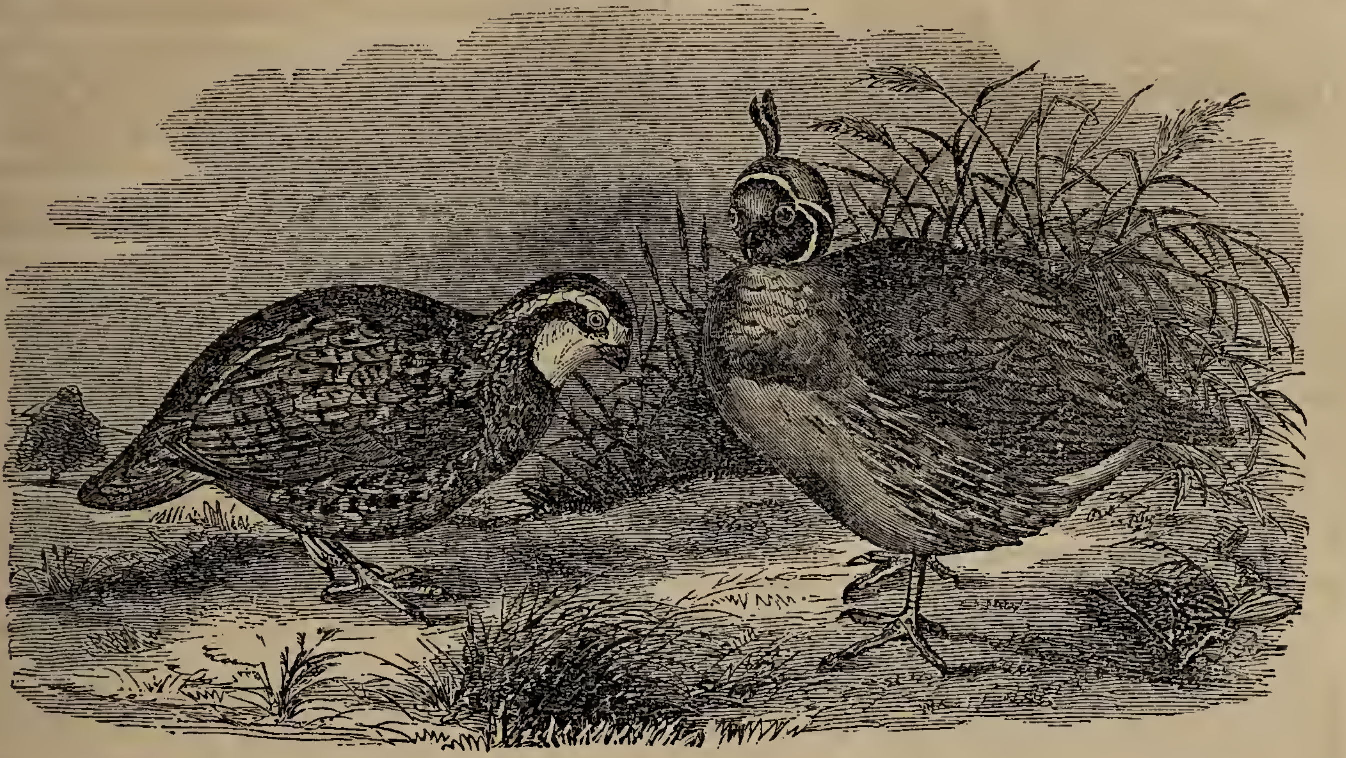
Dover Plains, Duchess Co., N. Y. J. B. S.

Delaware Grape Cuttings--How to Grow them.

MESSRS. EDITORS—Almost every writer says Delaware grape cuttings are very hard to make grow. In the fall of the year 1862, Mr. GEO. CLARK, one of the trustees of one family of the Canterbury Shakers, called upon me at the time for pruning my grapevines, and wished I would let him have a few of the Delaware cuttings. I let him have what he wished, but told him I did not believe he could make them grow in the open ground, as everybody said they were hard to make grow. "I will try," said friend George, and took the cuttings with faith to remove mountains.

About a year ago he called again—said he made two-thirds of the cuttings I let him have the year before live, and offered to take all the cuttings from my vine, and start them for one-half of what he could make grow. This fall he brought me forty young vines for my share of the venture. They all had good roots, and a shoot or vine from three to eight inches long, and looked like good, healthy plants. I asked him how he could make them grow so? He said one of their bretheren from a distant family in Ohio, told him to make the cuttings of three buds in length, and insert them in the usual way, early in the spring, in rich, mellow, rather moist, garden soil; then put up a row of shingles, by pushing one end of them four or five inches into the ground, on each side of the row of cuttings; then cover the whole with cotton cloth wide and long enough to hang down on each side and end, so as to shade the cuttings from the sun and keep the ground moist, and be sure and water them very often. He did so, and the result was, almost all of the cuttings started and grew like the ones he brought to me.

Every gardener will not have shingles to use in this way, but any old board, ten or twelve inches wide, put up on each side of the cuttings, will answer just as well as shingles, no doubt. Now this is nothing but "a cold frame," covered with cotton instead of glass; perhaps its quality lies in its being very narrow, and the covering of plain cotton cloth, unprepared with varnish, &c. A. C. *Concord, N. H.*



American Partridge. Gambel's Partridge.

American Partridge---*Ortyx virginianus.* Bonap.

Perhaps there is no family of birds more widely distributed over the surface of the globe than the partridges, a large number belonging to America.

We have figured, for this article, the American partridge and Gambel's partridge. The former shall be the subject for the present article, but it will be well to say a few words concerning the latter. Gambel's partridge is an inhabitant of Texas, and was first discovered and introduced to our notice by Dr. William Gambel, in the year 1841. For beauty of plumage, it probably surpasses any other species. The rich chestnut-colored feathers which adorn its sides, the beautiful yellow and ashy tints of its breast, the peculiar white markings of the face and sides of the head, and lastly, the singular plumes with which the head is ornamented, all combine to give it a very pleasing and odd appearance.

The range of the American partridge is immense—extending from Canada to Florida, and from the Atlantic to the Western States.

The American partridge, in sections of the country where it is much troubled by sportsmen, becomes exceedingly shy and wild, seldom venturing far into the open fields, but confining themselves to the edges of woods, to which they fly at the slightest alarm. Sometimes, when pursued by dogs or any other enemy, they take refuge in the branches of trees, where they remain until the danger is over. In hilly and mountainous districts this is particularly the case, and whole covies have been known thus to elude the sportsman, much to his astonishment and perhaps more so to his dogs. In their natural state, however, the American partridge delights in open fields, and where they are not disturbed, they will be found in such localities.

The food of the present species consists of seeds, grain, insects, and several kinds of berries. It is also particularly fond of Indian corn and buckwheat. During a very severe winter, partridges have been known to resort to the barnyard and eat in company with the poultry.

The flight of this bird is generally near the ground, and is performed by numerous quick flappings of its wings for a certain distance, and then the bird sails until about to alight, when it again flaps its wings to break the force of its descent. When a covey take wing of their own accord, they all fly off in the same direction, but when flushed by the sportsman they scatter in all directions, one rising after the other, or all at once, as the case may be. After the sportsman has passed on, they begin calling to each other and running together until they have all formed in a covey again.

At night the covey roost in the grass upon some slight elevation. And although they frequent the borders of woods during the day, they invariably retire to some open place to roost, so that they may not be come upon suddenly without their being aware of it. The covey form themselves into a circle with their heads pointing outwards and their bodies nearly touching each other. This arrangement enables the covey to take wing immediately upon being alarmed, each one flying off in a separate direction so as not to interfere with the rest.

A few partridges, owing to some inexplicable freak of nature, have their plumage of a pure, or a mottled white, instead of the usual color. *Yellow* reed birds and *white* snipe have also been shot. All of these correspond to Albinos in the human race.

The American partridge commences pairing in the month of March, early or late, according to the state of the weather. They build their nest early in May. It is composed of grasses put together in a very unartificial manner, and is generally situated under the shelter of a stump or tussock of grass in some wild meadow, or near the bushy margin of some clover field or orchard. It is generally so well concealed that it is only to be found after considerable search. The eggs are of a pure white color, and average from fifteen to twenty in number, and measure on an average one three-sixteenths of an inch in length by fifteen-sixteenths of an inch in breadth. After the parent birds have sat upon them for some time, they frequently become stained with a yellowish dirt color. As a general rule, only one brood is raised in a season, and it is our opinion that when we find a partridge sitting on her eggs in July, that her first set of eggs have been destroyed.

While the female is sitting, her mate may often be heard in the morning or the afternoon, whistling "*Bob-white, bob-white, bob-white,*" for a half an hour or more at a time, as if to cheer his mate while she is engaged in the arduous duties of incubation.

THE CULTIVATOR.

ALBANY, N. Y., FEBRUARY, 1865.

To Correspondents.—We are receiving so many and valuable favors from our friends, as usual at this season of the year, that the selection for publication in each successive Number is a matter of some difficulty. We do not make this notice, however, as any indication that we are *overburdened*, but as an explanation and apology for delay in the appearance of many articles to which we should be especially glad to give immediate insertion. Correspondents will please not think, on account of this delay, that their communications are rejected or undervalued; it is the season at which a supply always accumulates, out of which our columns will be enriched at periods when the out-door labors of the farm preclude to a greater degree the writing of letters. This accumulation we shall be most happy to have continued during the winter; and in tendering our especial thanks to those who contribute toward it, we shall do our best to compress as great a variety as possible into each issue of the paper, and to make room for their favors as rapidly as we can. Meantime we are obliged also to abridge or omit much that we should be glad to insert in our editorial columns.

It may also be added that during the pressure upon our time, incident to the first months of the New Year, replies to many of our private letters, both on business and editorial subjects, are necessarily less prompt than we could wish. We have to ask the indulgence of correspondents in this respect, and shall endeavor to render the delay as short as circumstances can be made to admit. The pressure upon our columns of "Inquiries and Answers" will also necessitate in some cases the postponement of attention here, but we shall give as large space as we can, each week, to this interesting department.

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Sorghum in Western New-York.—We furnished a statement last year of the successful experiments of Isaac Mekeel of Cayuga county, in raising Sorghum and manufacturing molasses. He has continued these experiments on a more extended scale, and procured improved apparatus for evaporation. His Cook's Evaporator is fourteen feet long and four feet wide, and cost $200—his grinding mill $250—and other arrangements run the cost of the whole up to $700. He has made this year about 2,900 gallons of sorghum molasses, 300 of which are from cane of his own raising, and the rest from the crops of his neighbors. By strict cleanliness throughout, and the quick manufacture which Cook's Evaporator enables him to accomplish, he has succeeded in producing an article much better than any we have met with at the West. We examined a specimen which had been drawn from the bottom of the barrel, and less transparent than the upper portions, and found it sufficiently clear to see objects distinctly through a stratum half an inch in thickness. This molasses is found to answer all the purposes of brown sugar in cookery, and is regarded as the cheapest sweetening in market, even at $1.50 per gallon.

Under the most favorable circumstances, the process of evaporation, from the moment the juice is pressed from the stalk to the complete formation of molasses, is effected in this evaporator in an hour, never longer than two hours. The greatest difficulty proves to be the press of business all at one time—which was, however, obviated to a considerable extent, by allowing the neighbors to grind with the mill all night. The present season ripened the canes later than usual, and did not allow of so long a season for manufacture. It is the proprietor's intention to procure seed of the earliest varieties of sorghum, and thus not only secure a smaller time for work, but to obtain a sweeter and better product.

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Extending Our Circulation.—A friend in Indiana who has lately sent a fine list of new subscribers, replies as follows to our letter of acknowledgment: "I don't want any thanks for doing something that will benefit myself more than it will you, and I consider introducing the COUNTRY GENTLEMAN in my neighborhood in this way. The small profit to you on each subscription is but an item, compared with the benefit I would derive from my customers keeping up with the times in their farming. We have around here *one of the best farming sections* in the West, and I would much like to see it brought up to something like the productiveness that it is capable of. No, no; I don't want any thanks for introducing the Co. GENT."

Another friend in Massachusetts writes:—"Ever since I became a reader of the Co. GENT. I have endeavored to increase its circulation, but with poor success until last year. My object in trying to increase its circulation was more for the benefit of mankind generally, than for you, for I believe he who reads and follows the sound instructions which you strive to impart to them, will also increase his crops, which is not only a benefit to him, but to all mankind. Last year I told one of my neighbors if he would take it, I would return him the money at the end of the year if he would give me all the numbers. I called on him a few days ago and asked him if he was ready to give them up; his reply was—'No, sir; I want it another year.'"

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Exhaustion of Soils.—A private letter from a farmer in Illinois, informs us that he visited, in August last, the home of his childhood and youth, in Jefferson Co., N. Y., and he adds: "I found a great change in the richness of soil. The cream was gone. The vegetable matter, accumulated for centuries, in the shape of decayed trees, barks, roots, leaves, &c., making a rich mould on top, is now nearly exhausted. No manure can replace that once native richness. Their only means of support are dairy and wool, and but little of the latter. Their wood is fast disappearing—now worth $7 to $9 a cord. Illinois furnishes them with wheat and corn." The same result must inevitably follow in Illinois. No matter how rich the soil, the time will come, sooner or later, when continual cropping, without the return of any vegetable food, will so greatly reduce its productiveness as to render the cultivation of cereal crops unprofitable. How long before the prairie farmers will take warning from the results which have followed the waste of manures in the Eastern States?

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Tobacco Convention.—A convention of the Tobacco-growers of the Connecticut Valley was held at Northampton Dec. 30, the object being to oppose the proposed tax on leaf tobacco. Resolutions to this effect were adopted. Also a permanent society, to be called the Tobacco Grower's Association of the Conn. Valley, was organized, and the following officers chosen:

President—P. SMITH WILLIAMS, Hadley.
Vice Presidents—Silas G. Hubbard, Hatfield; J. S. Allen, East Windsor, Conn.; J. S. Bagg, West Springfield.
Secretary—Luke Lyman of Northampton.

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"Egregious Mistake."—A truly egregious mistake was made in Mrs. Call's recipe for Sausages, published in our last number, p. 31. The 3d line, instead of reading "8 ounces of sage," &c., should have read—8 ounces of *salt and two ounces of sage*" The fault was ours, not the writer's.

Cheese Manufacturers' Convention.—The second meeting of the cheese manufacturers of this State was held at Utica the first week in January. After some opening remarks from the President, Geo. Williams of Whitestown, committees were appointed, and, in the afternoon, an informal discussion took place on the best breed of cattle for the dairy—a subject on which, as will be seen from the remarks of a correspondent, in another column, very different views are held by different persons. The committee on Finance reported in favor of increasing the membership charge from one to two dollars, which recommendation was carried. The committee on business reported subjects for discussion,—the first of which—"The best manner of organizing factories," resulted in an expression of the general opinion in favor of committing the business of the factory wholly to one competent manager, in lieu of the practice sometimes adopted of appointing a committee of managers on the part of shareholders. A valuable and extended address was delivered in the evening by Mr. Willard.

The next morning resolutions were passed, expressive of the acknowledgments of manufacturers to the late Jesse Williams, the pioneer in establishing the factory system. In the course of a discussion on the price to be charged for making cheese at the factories during the coming season, it having appeared to be the general sentiment that an advance upon the old rate of one cent per lb. should be made,—a committee appointed to consider the subject, reported in favor of charging "10 per cent. on sales, exclusive of salt, anatto, bandage, &c." This proposition was debated at great length, with many conflicting views, but was finally settled by the adoption of the following resolution:

Resolved, That this association recommend the adoption of a per cent. on sales as the factory system, leaving the amount of per centage to the agreement of parties interested.

Resolutions were offered by Mr. Fish of Herkimer, embodying the recommendations of the meeting on various points in the establishment of factories, mode of manufacture, treatment of stock, &c., but we do not learn from the report of the Utica Herald, to which we are indebted for the facts already given, whether these resolutions passed or not. We shall endeavor to publish them hereafter, as, if not fully endorsed by the convention, they present the views of at least one dairy farmer of long experience and good judgment. A full report was read from the factory of A. Bartlett, Munson, O., and brief statistics from 25 factories in this State, embodying facts, for which we shall hope to make room in a subsequent number. From two to four hundred persons participated in the meetings, which were well sustained, and do credit to the officers and members of the association. Mr. Geo. Williams was re-elected President, and W. H. Comstock, Utica, Secretary and Treasurer, for 1865.

Pennsylvania.—The Catalogue of the Officers and Students of the Agricultural College of Pennsylvania for the year 1864 is at hand. The new President, Dr. Wm. H. Allen, has assumed the duties of his position, and under his charge the friends of the Institution have every reason to hope for the successful prosecution of its objects. We are glad to know that the interest of the fund to be raised by the sale of the Land Scrip granted by Congress to the State, has been appropriated by the Legislature to the support of this College, instead of being divided up among several. The list of students numbers 146, including 29 in the preparatory Department, and among them several from the States of New-York, New-Jersey, Maryland, West Virginia, Massachusetts, and Delaware, as well as one or more from Canada West. The charge to students, including board, washing, room-rent, fuel, and tuition, is two hundred dollars per year—the College year opening February 28th, and closing on the second Wednesday of December. The Post Office address of the President is "Agricultural College, Center Co., Pa.," where he may be addressed for farther information.

Spreading Manure in Autumn.—We have strongly urged this practice for several years. At first the advice was received with strong objections from some quarters. We are glad to observe the practice is gaining ground and its advantages becoming appreciated. A late number of the Genesee Farmer says: "Mr. Lyman Balcom, of Steuben Co., an old and experienced farmer, writes me that he thinks 'one load of manure, hauled out and spread at any time between the 20th of September and winter, is worth more than two loads applied at any other season of the year.'"

Culture of Ruta Bagas.—Now I am writing I will mention one little fact which may be of service to some of your readers. I sowed my ruta bagas this year in rows made with a corn-marker, 3½ feet from row to row. Soil a dry gravel, very lightly manured with barn-yard manure. Very soon after they were up, I strewed unleached ashes and plaster freely along the rows, omitting one row. The drouth last summer was unusually severe, and in a few days the row that was missed being ashed and plastered, was completely withered away. Notwithstanding the drouth, the others grew finely, weighing from 10 to 13 lbs. each. John Atkins.

Welland Co., C. W.

N. Y. State Sheep Breeders' and Wool Growers' Association.—The N. Y. State Sheep Breeders' and Wool Growers' Association, will hold its Annual Winter Meeting in the City Hall in the city of Syracuse, on Wednesday, Feb. 22d, 12 o'clock, M. The sheep breeders and wool growers of the State are invited to attend. The Executive Board of the Association will meet the preceding evening to transact important business, and the members are requested to report themselves at the Syracuse House, at 9 o'clock, P. M.

HENRY S. RANDALL, President.

Vermont State Ag. Society.—As there were some errors and omissions in the list of officers of this Society, published last week, we republish them correctly:

President—J. W. Colburn of Springfield.

Vice-Presidents—John Gregory of Northfield, Henry Keyes of Newbury, H. G. Root of Bennington, D. R. Potter of St. Albans.

Treasurer—J. W. Colburn of Springfield.

Recording Secretary—Henry Clark of Poultney.

Corresponding Secretary—Henry C. Boynton of Woodstock.

Directors—E. Hammond, Middlebury; H. S. Morse, Shelburne; Wm. L. Brown, Fairhaven; Victor Wright, Weybridge; E. Cleavland, Coventry; N. Cushing, Woodstock; Geo. Campbell, Westminster; Hampden Cutts, Brattleboro; H. Haywood, Rutland.

At the meeting of Wool-Growers, called through this and other papers, to meet at the same time and place, a New-England Wool-Growers' Association was formed. It was also voted to adopt the name "Improved American Merinos," for the sheep now known as thorough-bred Spanish Merinos. The following gentlemen were chosen officers of the Association:

President—Dr. Geo. B. Loring of Mass.

Vice-Presidents—M. R. Flint of Me., John Preston of N. H., Geo. Campbell of Vt., Wm. Birney of Mass., Gov. Dyer of R. I., Geo. Atwood of Conn.

Corresponding Secretary—Daniel Needham of Mass.

Recording Secretary—Henry Boynton of Vt.

Treasurer—Hampden Cutts of Vt.

Directors—John S. Anderson and Thos. S. Lang of Me., I. Newton Sawyer and A. B. Balch of N. H., David Cutting and Henry Stafford of Vt., T. J. Field and W. B. Chenery of Mass., T. B. Buffum and Gov. Arnold of R. I.

Lice on Fowls.—An exchange paper says that these may be repelled from fowls by taking a small swab, and applying a little kerosine under the wings. The lice will be driven away by the odor, or poisoned by the oil.

Shows of Fat Stock.—While we are pausing and wondering whether the Farmers of the State of New-York can support a creditable Show of Fat Stock—not this winter, but after at least a year's brooding over the undertaking—let us note what single Counties can do where those engaged in agriculture are really in earnest in the effort to improve, and in the support yielded to their Societies. The County and Township of Guelph, Canada West, had such an exhibition last month, when there were no less than *seventy-one entries* from that single district alone, and *over two hundred fat cattle* were shown. The weights of the prize cattle were not very heavy: we refer to the subject mainly to illustrate how much more generally the farmers there turn out to compete on such occasions. But they seem to have been very good, and the Show a very successful one. Among the Sheep, Mr. F. W. Stone showed two very heavy fat sheep, one of them weighing 340 lbs., and the other 320 lbs. The heaviest one took the first premium. In this class, and in swine and poultry, the display was excellent.

A friend and farmer-editor says that if *talking* was his "forte," he would stump the State this winter in favor of better farming. The question continually recurs to us, "What *can* be done to waken up our farmers—to get them thoroughly interested in measures of improvement—to give an impetus to greater inquiry and better practice?" We are "stumping the country" continually, through the medium of these columns, but progress seems slow—the weight of the lethargy that doth beset us appears almost immovably great. Can anybody suggest the means of bringing about an agricultural "revival?" Will anybody start a second crusade—not for the recovery of the Holy Land, but for the benefit and better management of our own?

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Dent Corn in Western New-York.—We have noticed in former years the remarkable success of Joseph Wright, of Waterloo, in the cultivation of the large Dent corn—such as is raised in central and southern Ohio. His land for this crop was remarkable for its warmth, lightness and fertility—enabling it with early planting to mature before autumnal frosts. We have measured, in one of his fields, a stalk which lacked only two inches of being fifteen feet high, and the upper ear was too far above reach for a six-foot man to reach up and hang his hat on. President Lincoln could not have done it had he been there. This corn generally yielded nearly a hundred bushels per acre, and in some instances considerably exceeded this amount. S. Williams, of Waterloo, furnishes the Genesee Farmer with a statement of the crop for the past season covering eighteen acres. He never had a larger yield—one hundred bushels of ears, or over, per acre. The cob of this variety is so small that three bushels of ears give two of shelled corn. This variety of corn would not at all answer for ordinary management in Western New-York—but it shows the complete control in cultivation, which those farmers possess, who, by underdraining, manuring and other good management, make the season a month longer, as well as obtain a larger growth from everything they cultivate.

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A Welcome Importation.—Thos. Richardson, Esq., of New-York, with whom we had the pleasure of attending the Exhibition of the Provincial Agricultural Society of Canada West last October, was no less deeply impressed than we were by the contrast afforded between that Show and our own in the display of the Mutton Breeds of Sheep. He immediately made arrangements to import, ordering from England 30 shearling Cotswold ewes from three different flocks of the highest standing, to be in lamb to prize Rams. Of this order ten were received by the last passage of the steamer Kangaroo, and ten by the City of Dublin—all in good order, though somewhat thin from the exposure of a winter voyage on deck. Mr. R. will thus be able by another autumn to supply breeders with distinct families, male and female, of the highest character and quality. It will be remembered that we mentioned, Dec. 8th, the arrival of a Cotswold Ram purchased for Mr. Richardson at the New Castle Show of the Royal Society.

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Farmer's Clubs.—These bodies are capable of doing much to stimulate the intelligent direction of the Farmer's labors. A friend in Pennsylvania writes us that, under the excitement of recruiting and politics, the one of which he was a member has met an abrupt quietus—just at the wrong time, we should say, for now, if ever, such associations should be heartily sustained. That they do meet with such support, in some parts of the country, it is pleasant to note, and the Secretary of one in Massachusetts encloses us a little printed card, which is so much a model of its kind for general imitation, that we copy it below at length:

Subjects for Discussion in the Haverhill Farmers' Club.

Dec. 26,...	*Poultry.*—Breeds, Management, and Profit.
Jan. 9, 1865,	"Is mixed Farming the best for our farmers?"
Jan. 23,....	*Grapes.*—Best Kinds and Culture.
Feb. 6,.....	*Orchards* (Apple and Pear).—Best management of.
Feb. 20,....	"How should the Essex County Farmer procure Dairy Cows?"
Mar. 6,.....	*Farming Implements.*
Mar. 20,....	Most profitable Fruit to raise for this Market.
April 3, ...	"Can we raise our Pork at a Profit?"
April 17, ...	*Manure.*—Comparative Value, Preparation and Application.
May 1,....	*Preparation of the Soil.*
May 15,....	Best method of laying down Grass Land.
May 29,....	"What Trees shall we plant?"

C. T. Chase, *Sec'y.*

◆

"Wet Days at Edgewood."—Under this title the graceful author of "My Farm" has contributed to to the Atlantic Monthly a series of most agreeable articles from which our columns have contained extracts occasionally during the past season. These articles now appear in a handsome volume from the press of Mr. Scribner.

They comprise a review of agricultural and rural literature, in prose or poem, from the earliest times,—and, as styled in the title, are really "Days with Old Farmers, Old Gardeners, and Old Pastorals." With such a field for selection, and with so happy a faculty for bringing before the mind a picture of the times and people referred to,—it may well be imagined that Mr. Mitchell would make a charming volume, especially with the farm-land of "Edgewood" under his eye, and its well stored library at command. We even forgive him, as we read, for having caught a-napping Mr. Loudon, that model of laborious and voluminous authorship, as regards the true date of the *Geoponica Geoponicorum*, and other agricultural works of antiquity, or as to the identity of Pliny's country seats,—when we find so frequent citations to remind us "that a thievish orator at one of our Agricultural Fairs might appropriate page after page," out of the writings of some of these elder worthies, "and the county paper and the aged directors would be full of praises of 'the enlightened views of our esteemed fellow-citizen.'" And, speaking of Pliny's country-seats, we have a diagram of one of them, and another of a farmstead of the days of Columella. The reader cannot but sympathize in the pleasure expressed, in the closing pages, that the farm-practice over all our fields "rests upon the cumulated authorship of so long a line of teachers." To sketch and summarize these teachings was evidently a grateful task to the Farmer of Edgewood, and most delightfully has he performed it.

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An Amusing Game.—We have received a sample of the Game advertised by Amsden & Co., Boston, in a late number, which seems to be a very amusing thing,

Inquiries and Answers.

Roots for Fattening Hogs.—I will trouble you with a question concerning the kind of roots best adapted to "bring on" pigs during the summer. I wish to raise one or two hundred, to sell as "stock hogs," by about September next, and having no corn, but excellent new ground for any kind of root crops, wish to know what kind or variety I had better plant. Turnips, I am told, are not valuable for hogs, but beets, especially sugar beets, I think would surely be. *Query*. At present wages for help, would it pay to clean, cut and cook? J. R. S. *Fort Wayne*, *Ind.*, *Dec.* 1864. [Sugar Beets and Parsnips are regarded as the best roots for pigs—turnips do not answer well, but as none of these crops complete their growth till near winter, they could not be used for summer feeding. A good crop of clover, thickly sown on clean ground very early in spring, with no other crop, and thinly brushed or rolled in, would furnish a large amount of excellent feed, by mid-summer. It is very important the clover should be sown almost as soon as the snow disappears. Next after the clover, a crop of peas would be valuable. Summer sweet apples would form excellent food for growing pigs.]

Manuring in Winter.—Can you inform me through the Co. Gent., whether where manure is hauled daily from stables in winter on grass land, it is better to spread as we haul, or drop it in heaps and spread in spring? W. D. K. *Hancock Co.*, *Ill.* [Spread it as drawn, by all means, and as finely and evenly as practicable; the water will gradually dissolve and carry it into the soil, and thus diffuse it with the earth, in a finer and more perfect manner than by any other intermingling—thus securing all the advantages of liquid manure. If spread very early in spring, these advantages would be partially secured—if spread much later, the manure would probably not be more than one-half as useful. These remarks are made with the understanding that the top soil, thus enriched, is not turned deeply under.]

White Willow Hedges.—O. B., North Fairfield, O., writes, in reply to a recent inquiry in the Country Gentleman about white willow for hedges, that so far as he has seen, the growth has been very unequal—in some places two feet, in others not as many inches. He says—"Still I should think, that with the best of cultivation, in a rich even soil, that a substantial fence could be made with it; but not as the agent recommended, by simply cultivating, keeping the weeds down, and letting them grow as they pleased. In order to make a fence, I should take the first year's growth, bend over every sprout, and twist or braid them into a rope of from four to six inches in height; the following year I would serve it the same way, adding about a foot in height to the hedge, and so on until as high as desired. Treated in this manner, I should think it ought to make a hedge."

Potato Onions.—I should like to hear through The Cultivator, the best way of raising potato onions—also the seed, and how many can be expected per acre with good cultivation—what time the crop can be taken from the ground, &c? N. E. C. *Ellington*, *Ct.* [Will some of our readers answer.]

Transplanting Forest Trees, &c.—1. When is the best time to trim pine trees so the turpentine will not run too freely?—2. Also the best time to transplant pine and hemlock?—3. Also the best time to transplant hickory? Would the best way be to dig a trench around the tree late in the fall, and after the ground is frozen remove with a good ball of earth attached? W. H. *Montgomery Co.*, *N. Y.* [1. Having never practiced cutting large limbs, but only nipping the shoots for shaping beforehand, evergreen trees, we have never found any inconvenience from the flow of the sap at any season of the year. Where turpentine is obtained for commerce, incisions are made in the tree in spring, and the flow continues during the growing season. Hence we infer that autumn or winter would be a suitable time.—2. The best time to transplant evergreens in this country, is in spring, just as the growth is commencing. Unless they have been grown in nursery rows, a mass of earth carried with the roots will insure growth, and the tree will be sure to perish if the roots are denuded.—3. The hickory has a long tap-root, and to secure this root, under ordinary circumstances, a deep hole must be dug down into the earth around it. A better way is to dig down to some depth on one side, cut off the tap and other loose roots, fill the excavation and let it remain one or more years, according to the size of the tree. By that time it will have sent out many fibres above, and may then be removed in the ordinary manner. Taking up a ball of earth on the roots is not necessary for deciduous trees, unless they are quite large—a careful removal of the roots without mutilation will be sufficient. But for most evergreen trees the ball of earth is very important.]

Hen Manure.—*L. R. T.*, *Oneida*, *N. Y.*, wishes to know the best method of preparing and applying hen manure—also if leached ashes are beneficial to mix with the same? He also wishes to know where bone dust can be obtained, and the price per ton. [First let the hen manure be dried—then composted and mix it thoroughly with pulverized mould or dry and powdered peat or muck several times greater in bulk than the manure. This compound may be thinly applied to hills or drills. Or a cheaper and easier way for field application is to reduce the hen manure to powder, then strew it thinly along the furrow intended for planting, and mix it with the soil in the bottom of the furrow by dragging along it a small log drawn by a horse. This will mix the manure with the soil, and make a more even furrow, ready for planting. If the unmixed manure is dropped in contact with the seed, it will be likely to corrode and kill it. Billing's Corn Planter, and some other machines, drop concentrated manures like this in the hill when planting, without coming in contact with the seed. Another way is to sow the powdered manure broadcast on grass fields. This manure, when undiluted, is many times stronger than yard manure, and if applied at the rate of a quarter to half a ton per acre will produce decided results. Bone dust can be procured of Thomas D. Coulson of this city. Its price we are unable to state.]

Grafting Wax.—A correspondent, H. R., Kensington, Pa., asks for a recipe for making grafting wax. A good and cheap grafting-wax is made by melting together and mixing well, 4 lbs. rosin, 2 lbs. tallow, 1 lb. beeswax. These three ingredients are used in various proportions by different propagators—sometimes in equal quantities—sometimes 8 parts rosin, and three each of tallow and beeswax, or eight parts rosin, 5 of beeswax, 3 of tallow, &c. By using lard instead of tallow, as it is softer, more rosin may be employed. A correspondent of the Co. Gent. some years since, gave the following recipe: "I take one pint of linseed oil, 3 lbs. rosin, 1 lb. beeswax—melt well, and pour into a vessel of water—grease the hands and pull until white. I have been using it for several years, and prefer it to any other. Vegetable oils stand the weather better than animal."

Best Early Potato.—A correspondent of the New-York Farmer's Club, in Bucks Co., Pa., writes that he thinks the "Michigan White Sprouts" far superior to any other early potato, both for table use and productiveness. He says they are extensively cultivated in the vicinity of Camden, N. J., for the Philadelphia market, and that they "are a long smooth potato, resembling in shape the blue Mercers, perfectly white, dry and mealy, and are fit for use sooner than any other variety." Can you or any of your readers give us farther light in relation to this potato? A. B.

Apples for Stock.—Why do farmers raise sour apples for feeding stock, when they might as easily raise sweet? Sweet apples fat pork better than sour, and it is said by some even better than potatoes. Cattle and sheep prefer them, as I find by actual experiment—and they also make better vinegar. People usually like a good sweet apple best. Can we not sow nurseries of sweet apple seeds, and thus grow *natural* sweet apple orchards, which are more hardy, thrifty and productive than those grafted? P. S.—It is said they do not dry up milch cows, like sour apples—is it so? F. Manter. *Wayne*, *Maine.*

Inquiry.—I have a cow four years old last spring. She calved last August, about the 15th. I sold the calf Sept. 21st., since that time she has not been in heat. How can I make her get in heat? I have repeatedly offered her salt, and she refused it; though she will eat a small handful about once a month. Some have told me she might continue to give milk right along without having any more calves. Did you or any of your correspondents ever know of such a case? And is it not injurious to the cow? At any rate, I should think it would be more profitable for them to have calves. J. K. *Carmel*, *N. Y.*

Bees.—A few years ago, I knew a gentleman who had bees in a small well-house for twenty years, and did well in it. He said "the bees had never swarmed therefrom," but had constantly increased. Now, I want to inquire of you, or your correspondents, if any one has had as good success with bees in a bee-room as in hives—if they get as much honey, can prevent as well the entrance of moths, ants, and mice? If so, give us in the columns of THE CULTIVATOR, a good plan of a bee-house, with manner of feeding, (especially rye flour, &c., for making bee-bread.) best way of watering, and preventing being robbed by neighboring bees. Such information would be of general interest. The care and labor would be small compared to that of bees in hives. F. MANTER. *Wayne, Me.*

Spreading Manure in Winter.—"I observe that you often recommend this practice—if it is a good one why do not the public roads become very fertile, where large quantities are dropped by passing horses? Yet it is well known that the roads give but little pasturage. W. F." [Roadsides, the only parts where grass grows, do not receive the manure that falls from travelling horses, but only the bare beaten track. The latter becomes beaten hard, so that it would almost hold water like a cistern, if concave, and consequently very little or none of the manure penetrates the soil, but the first rains wash it all away. Every one has observed the streams of water that pour down the highways as soon as a heavy rain falls, simply because the water cannot be absorbed by the soil. But on a grass or plowed field, no such result takes place—the rain is absorbed by the roots and turf, or by the mellow soil, and it is only after long or heavy rains, that fill the earth with water, that any surplus passes off. During months of continued sleighing, the manure remains in the track where it falls, and when the snow thaws off, a line of manure an inch or two in depth, is seen along the beaten track. If this had been dropped in mellow soil, that would absorb its liquid parts as they are washed out, it would become strongly enriched; but on the hard road it is all washed away as soon as the first heavy rain falls. There is no portion of well cultivated fields, except it be the very bottoms of hollows or channels of streams, where any fear need be entertained of manure washing away—on all other parts it will be absorbed and held fast. The better the cultivation, the more perfectly this will be effected. [On grass it quickly finds its way down among the roots.]

Black Knot or Wart on Plum Trees.—I wish to inquire through THE CULTIVATOR, the cause, remedy and prevention of this disease. I saw it a few days since on the plum trees of two of my neighbors. The trees appeared otherwise thrifty, and were very productive last year. It is said to be caused by worms leaving the decayed fruit and attacking the limbs; but I find the disease upon young trees that never bore fruit. F. MANTER. *Wayne, Me.* [The cause of this disease has not been determined. After the excrescences are formed various insects enter it, which induces some people to suppose them to be the cause of the trouble—a supposition sufficiently disproved by the fact that they are often found without any insects whatever. The best remedy is to cut them off as fast as they appear. If this is done promptly at the start, and kept up unremittingly, it will prove effectual. Washing the wounds with chloride of lime tends to prevent their breaking out again.]

Designs for Barns.—I have found your publications of great assistance to me. On the subject of "Barns" I have wished your REGISTER was more full. The space given to houses, grounds, &c., is very liberal—perhaps none too much so; but more barns are needed than houses, and in our section of the country at least, more attention ought to be given to their structure. Being about to erect some out-buildings, I would be willing to give any reasonable price for a work devoted to that subject. There are works enough on rural architecture to bankrupt a man, but barn literature seems to be scarce. I would recommend to some one to supply the want. C. DANA. *Woodstock, Vt.* [We entirely agree with our correspondent in relation to the importance of this subject. Various designs are met with in the agricultural papers, but most of them are very imperfect and defective. We should be glad to publish any new ones containing improvements on those already given in the REGISTER.]

Bitter Rot.—A portion of my apple trees have been severely afflicted with bitter rot—"lo! these many years." Do you know any remedy? Will cultivating do any good, or dung or ashes or swamp muck? Of the latter I have an inexhaustible mine. R. S. *Mershon's Cross Roads, Ky.* [The bitter rot is more apt to affect apples which are grown on rich soils, and probably they would do best if planted on the more sterile uplands. Sometimes the application of lime has answered a good purpose. These means cannot, however, be relied on, and the best way is to graft only such varieties as are least troubled with this disease.]

Mowers and Reapers.—D. D. of Fall River, Mass., wishes to know which is the best mower made in the country, and other particulars in relation to different patents. We frequently have inquiries of this kind. A moment's reflection would show our correspondents that we cannot answer such questions even should we keep a travelling agent constantly in the field to examine the many kinds now in use—for even the most experienced farmers and committees of trial differ widely in their opinions. Nearly every neighborhood is furnished with good ones, and each farmer must select the best he can find within reach.]

Peach Stones.—I have a lot of peach stones I wish to plant. They have been kept in a dry room since taken from the tree. How shall I manage them? E. D. H. [The peach stones would have been better had they been mixed with sand, and not been allowed to dry for so long a period. Mix them immediately with earth or sand, just enough to fill compactly all the interstices, and expose them as much as possible to freezing and thawing. A part of them, if planted, will grow the first year, and the remainder the second; but, if cracked early in the spring before planting, they will nearly all grow.]

THE CULTIVATOR.

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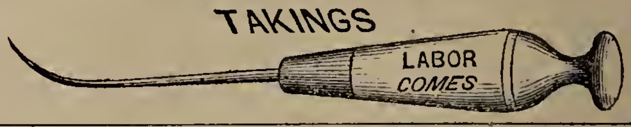

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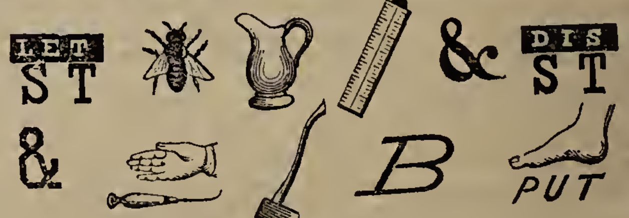

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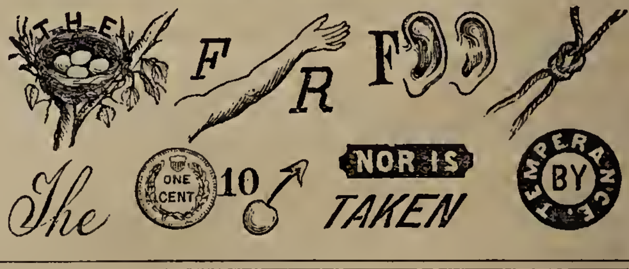

Turkeys Buried under Snow.—A man of my acquaintance—and I have no reason to dispute his veracity—tells me that during the severe snow and cold of last winter, he had turkeys lay buried in the drifts four weeks, with nothing within their reach but snow that they could eat, and came out alive, and did well afterwards, though very poor on being found. A. M.
Belvidere, Ill.

A Good Cow.—I am not a farmer, but keep a single cow for the use of my family. This season have sold from her to the neighbors upwards of $190 worth of milk. We have used milk very freely in my own family, and purchased but a very few pounds of butter. She is a splendid cow, Ayrshire and Devon, without a fault.
Meriden, Conn. A. N.

UNIVERSAL COTTON GINS.

HORACE L. EMERY'S PATENT.

1860, 1862, 1863 and 1864.

PRICES FOR JANUARY, 1865,

Subject to be increased or decreased with rise and fall in price of materials.

HAND GINS.

Fitted with Two Cranks and Pulley for a Band.

SIZE OF GIN—$6.00 per saw.	GIN.	CONDENSER.	TOGETHER.
13 Saw Cotton Gin,........	$78.00	$52.00	$130.00
15 do.	90.00	60.00	150.00
17 do.	102.00	68.00	170.00
19 do.	114.00	76.00	190.00

GINS FOR POWER.

SIZE OF GIN—$5.50 per saw.	GIN.	CONDENSER.	TOGETHER.
25 Saw Cotton Gin,........	$137.50	$91.67	$235.17
29 do.	159.50	106.34	265.84
35 do.	192.50	128.33	320.83
39 do.	214.50	143.00	357.50
45 do.	247.50	165.00	412.50
49 do.	269.50	179.67	449.17
55 do.	302.50	201.67	504.17
59 do.	324.50	216.33	540.83
65 do.	357.50	238.33	595.83
69 do.	379.50	253.00	632.50

This Cotton Gin had received a very successful and extensive introduction throughout the best cotton growing sections of the Southern States, for several years prior to the rebellion, where it was always found to make superior and cleaner cotton, which commanded a more ready sale and higher prices than that from any other Gin. The improvements obviate all difficulty in feeding them, as the roll readily adapts itself to any desired or variable speed of the Gin which the variety of the cotton may require, as well as to the nature and efficiency of the propelling force applied, without causing any choking, bridging or breaking of the cotton roll, or impinging and injuring the staple. They consequently may be operated by less skillful attendants as well as with less power by fully one-half that for any other Gins without the improvements. A sixty saw Gin is readily driven with a three-inch band over a twelve-inch (in diameter) pulley on the Gin, for ginning equal quantities in even time with any other Gin, of same size, without the said improvements, and which require an eight to ten-inch width of driving band.

In addition to the improvements to the Gin proper, is added a condensing and cleaning attachment for receiving the cotton, with the wind and dust, from the Gin, and by means of a revolving screen within it, the cotton is arrested while the wind and dust pass through into and off at the open ends of the screen, leaving the cotton in the form of a thick batt upon the screen; this batt is delivered between impinging cylinders in one continuous sheet, thus not only cleaning and separating all the dust and sand thoroughly from the cotton, but delivering it in a compact and convenient condition to be handled for packing, and without interrupting the ginning process. This attachment also obviates all liability of danger from fire, and admits of being operated in any building, however small, or without any building whatever. It thus becomes practically a portable machine, always complete in itself, and is ready to operate under any circumstances.

The Gins can be used with or without a condenser, or the condenser may be attached at any subsequent time, if not purchased with the Gin.

This attachment is of the greatest importance to the successful introduction of a saw Gin, and the cultivation of new cotton fields. With it the Gin is better adapted for the farmer or planter with small means, or small production of cotton. In consequence of the extra cleanliness and brightness of the lint, the cotton commands, always, a more ready sale and almost invariably a higher price in any market than when ginned with ordinary machines, where the cotton, lint, dust, &c., are deposited together in a lint room.

This Gin and Condenser were taken to the Great Exhibition in London, England, in 1862, and although arriving late it was in successful and constant operation for the last four months of the Exhibition, and secured the most unqualified approval of the best spinners and experts, and in working all kinds of cotton, from every part of the World which produces it, among which may be named the Green Seed, or upland New Orleans variety, grown in the United States, also, from India and other countries, where it has been introduced; Chinese, Burmah and African, Native India, or Surat, with its fine but short and tight fiber, and the smallest of all Cotton Seeds, not larger than good sized Hemp Seed; the Smyrna, Italian, Grecian and Turkish, with short and tight woolly fibers, often mixed with the naturally colored yellow cotton and with medium sized seed; the Egypt, Jamaica, Venezuela and Java varieties, with their fine, long, semi-tight fiber and large seed; the Brazilian, with its long, woolly, tight clinging fiber and large black seed in a cluster, or kidney form; the Hayti, Honduras, Colon, or Central America, and Monte Video, with long, woolly and tight clinging fibre and very large seed; the Queensland, Sea Island, British Guiana, the longest, finest and most delicate varieties known, with large black seed, and very slight clinging of the fiber.

So great was the success gained by its rapidity of operation and the small power required for driving it, and the simplicity and ease with which it is attended, together with the superior quality of its work, that it was at once in large demand, and very extensive works have been erected, near London, for their manufacture, which is already carried on to a large extent, and with a constantly increasing demand.

At a trial, in December, 1863, under the auspices of the Manchester Cotton Supply Association, at their rooms in Manchester, England, some half a dozen kinds of cotton were ginned with several of the best Gins made in England.

The samples were afterwards appraised by their Cotton Brokers, in Liverpool, for the Association, and, in all cases but one, the values were considerably higher for the Cotton from this Gin, and in that one case referred to, the price was the same as that ginned by the "Roller or McCarthy Gin," and for short staple from Smyrna; this, together with the report that the staple from this was entirely uninjured, at once set at rest the prejudice so long, so strong, and so justly attaching to all other Saw Gins, which Gins are not and never can be adapted to many kinds of cotton, and with unskillful attendance and variable speed will do no more or less injury to the staple of every kind.

This Gin is already adopted by the London and Manchester East India Cotton Agency, the largest and oldest Cotton Company operating in East India. Also by several of the largest private establishments there, some of which turn out the enormous quantity of thirty tons of cleaned cotton per day, and those brands in Liverpool market command the highest prices of all India Cottons; the same is true of several large Houses in Greece, Smyrna and Egypt.

The India Government are also purchasing them for distribution among the people, for promoting the growth of Cotton, and for both the Native Cotton and Acclimatized New Orleans variety being now extensively and successfully cultivated in India.

This Gin was awarded the highest prize by the Commissioners of the great Italian National Exhibition, at Turin, in June last, in competition with a large variety of the best Gins known, with both saws and rollers, and for all kinds of staples.

They are constructed of materials suited to all climates and countries, some wholly of Iron, others partially of wood, but all parts susceptible of being affected by climate, temperature, or insects, are made of iron, steel and zinc, so as to insure uniformity of operation and durability under any and all conditions; those partially of wood are suited to almost every condition and circumstance; those wholly of iron are afforded at about ten per cent. above the prices as annexed.

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Price $5 per Saw for 18 Saws and upwards.

THIS GIN is expressly intended to supply a demand for CHEAP GINS and adapted for ginning all kinds of staple, in a superior manner, which can be handled by the Celebrated Bridgewater Gins of the Carver and the Eagle Patterns.

They are equally simple, as well as more substantially made and superior in style of finish.

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They also have the same advantages as in the UNIVERSAL GINS of the SUPPORTING PICKER ROLLER in the hopper for supporting and moving and preventing any clogging or breaking of the COTTON ROLL, and of the TURNED IRON COLLARS between the SOLID SAW PLATES instead of the Wood Cylinders with grooves, into which are inserted Segments of Saw Plates, as in both the other kinds named.

These advantages over any other Gin in market, together with the very low price of $5 per saw, for eighteen saws and upwards, delivered in New York or Boston, free of charge, including strong substantial packing cases, places them on better terms than anything of the kind ever offered to the public.

CONDENSERS can be supplied with them when desired, at the same prices as for the Universal Gins for same sizes.

Intermediate and larger sizes made to order at proportionate rates as the foregoing.

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1865 THE ILLUSTRATED ANNUAL 1865
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Beside the usual Calendar Pages, presenting calculations for the three different parallels of the New-England, the Middle and the Border States, the following synopsis will partially show the chief subjects treated, and the ground covered in the Annual Register of Rural Affairs for 1865—accompanied by about

One Hundred and Thirty Engravings.

1.—COUNTRY HOMES—Twenty-Three Engravings.

1. General Remarks.
2. A Small Cottage—view and two floors.
3. A Bracketted Square House—view and two floors.
4. A Plain Country House—view and two floors.
5. A Convenient Dwelling—view and two floors.
6. A Large Farm House—view and two floors.
7. A Large Country House—plans of three floors.
8. A Village Residence—view, two floors, basement, and plan of grounds.

II.—MONTHLY CALENDAR for the Nursery, Orchard and Fruit Garden—Twenty-Two Engravings.

1. Work for January—Preparations for the coming Year.
2. February—Root Grafting. Manuring and Pruning, Grape-Houses, &c.
3. March—Fruit Trees, Grapevines and their Propagation.
4. April—Transplanting, Setting Root Grafts, Draining, &c.
5. May—Strawberry Beds, Mulching Orchards, Evergreens, &c.
6. June—Insects, Managing Young Trees. Grape Houses, &c.
7. July—Layering Grapes, the Small Fruits, Budding, &c.
8. August—Orchard Treatment, Fruit Gathering.
9. September—Preparing New Gardens.
10. October—Transplanting, the Fruit Harvest, Keeping Grapes.
11. November—Treatment of Trees, Fruit Bushes, Grape Layers.
12. December and its Labors.

III.—PRUNING, its Principles and Practice—Thirty-One Engravings.

1. Young Trees at Transplanting.
2. Proper Time for Pruning.
3. Pruning as Affecting Fruitfulness.
4. To Give a Desired Form to the Tree.
5. For Nursery Trees—Pruning Single Shoots.
6. Pruning Young Apple Trees.
7. Pruning the Peach.
8. Pruning the Cherry, Quince, Gooseberry and Currant.
9. Pruning Old Trees.
10. Pruning and Training the Grape.

⁂ *This Chapter is on a subject about which every Fruit Grower desires information, and no more complete, simple and effective directions have ever been given than are here comprised.*

IV.—THE TURKEY—Four Engravings.

1. Its Natural History, &c.
2. The Wild Turkey.
3. The Domestic Turkey.
4. The Bronze Turkey.
5. The White Turkey.
6. Management—Selection, Mating, Incubation, &c.

V.—A SHEEP BARN—Four Engravings.

1. Description of Plans and Directions for Building.

VI.—BEE MANAGEMENT—Thirteen Engravings.

1. Queens. Workers and Drones.
2. Breeding and Swarming.
3. Artificial Swarms.
4. Surplus Honey Boxes.
5. Loss of Queen, Wintering Bees, Robbing, &c.

VII.—FARMING ITEMS AND SUGGESTIONS—Seven Engravings.

1. Mowers and Reapers—Four Wheeled Carts.
2. Barn Ventilators, Harvesting Corn. Clover Hay.
3. Wheat Planting, Bean Culture, Sowing Grass Seed, Cutting Timber, Cleaning Wheat.
4. Mowing Pastures, Rocks, Rotation for Dairy Districts, Cooking Feed.
5. Marking Sheep, Choked Cattle, Ventilating Cellars.
6. Packing Vegetables for Winter.

VIII.—HOUSEHOLD MANAGEMENT—Two Engravings.

1. Washing and Sprinkling Clothes.
2. Washing Dishes.
3. Suggestions about a Working Dress.
4. Bed Room Essentials.
5. Items of Economy.
6. Clothing—Making, Wearing and Keeping it.

IX.—RURAL AND DOMESTIC ECONOMY—Seven Engravings.

1. Grass Growing in Walks—About Conducting Water.
2. Door Cracks—Using the Broom—Corks.
3. Stencilling, Window Blinds, Ventilators for Bins.
4. Ventilators for Indian Corn in the Crib.

X.—CHEAP PIGGERY AND CORN HOUSE—One Engraving.

1. Descriptions and Directions for Building.

XI.—THE ORCHARD AND GARDEN—Ten Engravings.

1. Items and Suggestions in Orchard Management.
2. Laying Out Orchards.
3. Packing Apples in Barrels.
4. Training Grapes to Lay Down in Winter.
5. Want of Calculation.
6. Trimming Hedges.
7. Training Lima Beans.
8. Neat Premises.

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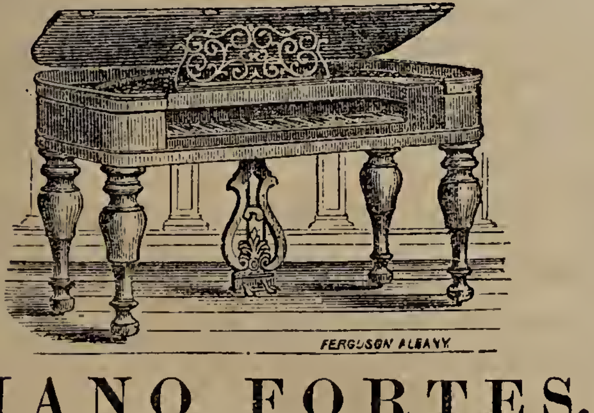

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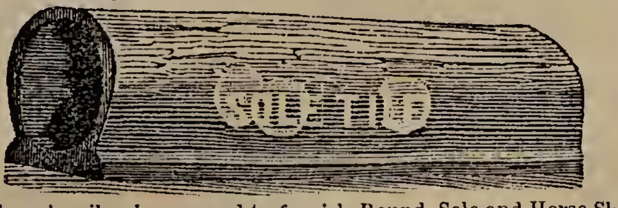

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THE CULTIVATOR.

THIRD] TO IMPROVE THE SOIL AND THE MIND [SERIES.

VOL. XIII. ALBANY, N. Y., MARCH, 1865. No. 3.

PUBLISHED BY LUTHER TUCKER & SON,
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TERMS—EIGHTY CENTS PER YEAR—Ten copies of THE CULTIVATOR and Ten of the ANNUAL REGISTER OF RURAL AFFAIRS, with one of each free to the Agent, Eight Dollars.

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The Cultivator & Country Gentleman.

AUTUMN SURFACE MANURING.

Our old friend and correspondent, JOHN JOHNSTON, writes to express his pleasure at having seen several articles of late in the COUNTRY GENTLEMAN recommending the Surface Application of Manure in Autumn. "There has a great change come over you in the last ten years," he remarks, "since you added a note to one of my articles, saying you were surprised that a farmer like me should apply manure in this way. I wish you would republish my letter of some twenty years ago, advocating the application of manure in September or early in October, and plowing it in the next April or May. I commenced in 1838 to apply manure only at that season, and on the surface, but had experimented for several years previously to see if I could not destroy pigeon-weed by thus getting it to vegetate in autumn and then plowing it under in spring. I found that if the dung was spread by the 8th of October or thereabouts, it answered this purpose; but I found also *that my crops were much better* than when the dung was immediately plowed under. This was so contrary to what I was trained to in my youth, that I was for some years afraid to give publicity to the fact, until I had made it the subject of repeated trials."

Owing, perhaps, to some imperfection in the indexing of the earlier volumes of THE CULTIVATOR, we have been unable to find the letter to which Mr. JOHNSTON refers. Should we be successful hereafter, it shall again see the light, as he suggests. Meantime we are reminded in his note of the great modification which has undoubtedly taken place in the views of agricultural writers, as well as of practical farmers, within a few years past, both in this country and abroad, on the point referred to—a modification which the example and writings of our friend have had much influence in promoting.

In turning the pages of our back volumes in search of Mr. Johnston's letter, we chanced however to meet with a contribution on the same subject, from one of our ablest and most frequent correspondents in those days, Hon. JAS. M. GARNETT of Virginia. This article, although occupying a full quarto page in fine type, by some error, does not appear in the index, so that it could not be found on search any more readily than Mr. Johnston's. It was dated June 18th, 1839, and was published on page 104, vol. VI. Judge Garnett there exhibits the same hesitancy to which Mr. J. alludes, in coming forward with his experience in opposition to the teachings and practice of the whole community, until it had been most fully tested. As to his experiments, he says:

> "I began penning my cattle late in the spring, and continued it until frost, in pens of the same size, moved at regular intervals of time, and containing the same number of cattle during the whole period. These pens were alternately plowed and left unplowed, until the following spring, when all were planted in corn, immediately followed by wheat. The superiority of both crops on all the pens which had remained unplowed for so many months after the cattle had manured them, was just as distinctly marked as if the dividing fences had continued standing; it was too plain even to admit of the slightest doubt. A near neighbor, a young farmer, had made the same experiment on a somewhat different soil, the year before, but with results precisely the same. Similar trials I myself have made and seen made by others with dry straw, alternately plowed in as soon as spread, and left on the surface until the next spring. In every case the last method proved best, as far as the following crop would prove it. The same experiment has been made by myself and others of my acquaintance, with manure from the horse stables and winter farm-pens, consisting of much unrotted corn offal; and without a solitary exception, either seen by me, or heard of, the surface application, after the corn was planted, produced most, manifestly, the best crop. Upon these numerous concurrent and undeniable facts, my opinion has been founded, that *it is best to apply manures on the surface of land*."

He proceeds to argue at length whether the old theories should be adhered to, in spite of such facts, simply because so much ink has been shed in their defence. As to any injurious result from "evaporation," (or the "escape of ammonia" as it would probably have been styled at a later day,) he says: "All these results undeniably prove that the surface application was best, although the kinds of manure differed considerably." And farther on: "That such evaporation cannot thus act seems to me to be unquestionably proved; * * for, *if it did*, then the land of summer cow-pens plowed up as soon as removed, would, in every case, have produced better crops, than that of the unplowed, instead of *doing it in none*."

The remainder of the article, in exposition of what he considered the true solution of the case, will bear at this day the test of close examination, and shows that he was both a careful observer and a deep and original thinker. Believing the fertilizing elements of manures to be soluble in water, he shows that they may pass down into the soil as well from their own gravity, as from its possessing a greater attraction than does the atmosphere, for every substance in solution which constitutes the food of plants. If a loss of plant food is the result of evaporation, he says,—this is a process always going on, and why does it not impoverish the soil, "even without any cultivation whatever. Yet neither total nor partial barrenness is ever known to be produced by any other cause than incessant culture without manure." Even the gas escaping from exposed manures he thought to be utilized by the foliage of vegetable growth. Again, he continues, the rains dissolve and carry down the valuable elements of the manure, from the surface, to a proper depth for the use of the plant roots; while if we bury it below the surface, these soluble elements are washed, to a great degree, beyond the reach of the plants for whose nourishment they were designed. And he quaintly adds that his observation of Nature had not brought to his knowledge "a single exception to *her* practice of depositing on the earth's surface all the putrescent substances of every kind which appear designed to preserve her fecundity."

The whole subject is one of no little importance, and the reference to the volumes of our journal, of a quarter of a century ago, to which it has led us, may serve to show that it was as carefully studied then as now, and that these volumes contain not a few contributions which may be read with as much interest and profit, in the midst of all the investigations and "progress" of the present, as at the time they were originally written.

◆ ◆ ◆

SUMMER FALLOWING.

I would like to inquire why it is that this ancient practice of raising winter grain has recently so fallen into disuse, and if it is not still correct that it is one of the speediest and most economical means of improving worn out-soils.

Take for instance a field in grass, either pasture or mowing, which for a series of years has been farmed under the rule of taking everything off and putting nothing on in return. It may give, perchance, an annual crop of half a ton per acre of very poor quantity of hay, composed in part perhaps of thistles, daisies, &c., the soil naturally feasible and with a good fair sward, but hide-bound and full of foul vegetation, and not yielding by any means what it ought to.

Now take this field and plow it *thoroughly* in the month of June, from six to eight inches deep, according to the character of the soil; allow it to remain through the warm season some six to eight weeks, and then have it well cross-plowed. By the way, it should in both instances, if practicable, be plowed in narrow "lands," so that the crossing may be as nearly as possible at right angles. At the period of sowing in September, it should be thoroughly and repeatedly harrowed with a Shares' harrow, which, by the way, acts very nearly the same as a light gang plow; or if at this time the sward be not well decomposed, another plowing must be had.

One thing, however, must be borne in mind, that the grain must not be put in until the sward has almost entirely disappeared, and most effectually intermixed with the soil. At the sowing of the grain the field should be seeded again with clover and timothy, as desired.

Now then it is plain that one need not commence this system until he makes up his mind fully to two things; first, that it will cause him to lose the use of his field mainly for one entire season; and secondly, that it will prove a course causing quite an outlay of labor, which is surely to be taken into account during the present war times. But we very much question whether there is any course or system by which a field in the low state supposed, can be more cheaply or sooner improved. And that it is improved no one will attempt to disprove. The entire vegetable matter in the field is thus quickly brought into a decomposed state, or manure, and made into good plant food.

The difference between this and the more usual rotation of corn, oats or barley, and seedling, or the three-fold system of corn, spring grain, and then winter grain and seeding, being that in the case of fallowing, the soil is seeded down before the strength of of the sward has been exhausted by successive croppings. WM. J. PETTEE. *Salisbury, Ct.*

◆ ◆ ◆

The Profit and Unprofitableness of Fowls.

One of the most profitable and yet the most neglected stock kept by the New-England farmer is his stock of barnyard fowls, which neglect renders them the least remunerative; yet there are many exceptions to this statement, as many farmers are now learning that the right breed of fowls, properly managed, is as important to his interest as any stock he may keep. The success of the poulterer depends entirely upon his care in first selecting the right breed, and afterwards taking proper care of them. My most successful experience has been with the pure Brahma fowls, which breed with us is considered far superior in laying qualities, and for the market, to any we have ever known. I keep them but one year; that is, when my pullets commence laying in July or August, the old fowls are sold to the butcher, at which age our market dealers prefer them to younger fowls. My motive is to produce more eggs in the winter season from my young fowls than from the older ones. My sitting season is generally during the months of March and April. The young chickens are fed upon bran and boiled potatoes until one month old, afterwards with cracked corn, allowing them entire liberty. As soon as the young roosters are designated from the pullets they are separated, and fed differently; the roosters are fattened, while the pullets are fed to produce growth and maturity. The food for the pullets may be corn, pork-scraps, and barley; for the roosters, scalded corn meal—enclose them, being careful to furnish fresh water and grass, or green herbage. I generally set from 10 to 15 hens at once, as they all hatch at the same time. Two or three hens take charge of them in one coop, making the care much less than broods of different ages.

The coop for laying fowls should be light, dry, and well ventilated. It is not necessary that the Brahma fowls be kept warm in winter; they are very hardy, "and I find that they succeed better without artificial heat than with it," with particular care that the coop is free from drafts, being tight, with ventilation at the top.

In rearing chickens last season I discovered a method which I consider of much importance. When the chicks are about twelve hours old, a drop of kerosene oil is applied to the top of their heads, and under each wing, which immediately destroys any insect which may have come from the hen, and before they are troubled again they will be of sufficient size to take care of themselves by scratching in the soil or dust of the coop.

As a market fowl I think the Brahmas excel all others; their flesh is yellow, tender and juicy, even when one and two years old. I have experimented with nearly, if not all, the different known varieties, and find none to compare with the pure Brahma breed for every quality that constitutes a perfect profitable farm fowl.

Salem, Mass JOHN S. IVES.

Fruit Growers' Society of Western New-York.

The Winter Meeting of this Society was held at Rochester on the 24th inst. The attendance was large, most of the counties of Western New-York being represented by members in attendance.

President Barry opened the meeting with a brief address, in which he alluded to the period of existence of the Society, this being the 10th annual meeting, and during this period three meetings had been held each year—summer, autumn and winter—he referred to the friendly and cordial feeling that had uniformly prevailed among the members during all this period, and to the social benefits which had thus arisen—and to the early discussions on the profits of fruit culture, at a time when the wheat crop had generally proved a partial failure—and to the wide publication of these discussions in the papers throughout the country. From this cause a great impetus had been given to fruit culture, and extensive orchards had been planted, and now Western New-York stood pre-eminent as a fruit-growing region.

The tables of the Society exhibited several fine collections of winter fruit. A superb collection of winter pears was presented by Ellwanger & Barry, consisting of *forty varieties*, each variety occupying a full dish. Among them we observed *Winter Nelis* and *Beurre Gris d'Hiver Nouveau*, measuring fully three inches in diameter each way, and *Belle Williams* three inches in diameter and nearly five inches in length. H. N. Langworthy exhibited a large box of Rebecca grapes in an excellent state of preservation, and fine Isabellas, and Catawbas were observed from other sources. The Tompkins County King were the most beautiful and showy apples in all the collections.

The committee on business reported the following questions for the consideration of the Society:

1st—The results of the most recent experience with the new varieties of the Grape?

2d—The best varieties of hardy Grapes to furnish a succession for family use; and how long may Grapes be had in perfection?

3d—What peculiarity of soil is adapted to the different varieties of the Grape?

4th—The best mode of keeping the Grape?

5th—The most recent experience with the new varieties of the Pear?

6th—The best varieties of Pears for general cultivation.

7th—Does our past experience justify the extensive planting of the Pear in Western New-York?

8th—What is the cause or causes of the failure of the Peach crop in Western New-York? And what is the best course to remedy the evil?

9th—Which is the most profitable of the Small Fruits to cultivate for market?

10th—What is the best method of growing and ripening fruits under glass?

The discussion was opened with remarks on the best mode of keeping grapes. Judge Larowe of Steuben county, had kept grapes till the middle of July as follows:—he uses crocks or jars holding about two gallons; laid a round board in the bottom, filled with grapes, and then sealed them air tight with a compound of rosin and tallow. They were placed in a cold room and allowed to remain there, unless the thermometer is likely to run down to zero, when they are carried to the cellar. It is important to have the grapes well ripened, in which case they will not freeze nearly so easily as apples. G. Ellwanger had never succeeded till he had kept his grapes in the barn, by first packing them in twelve and twenty-four pound boxes, and as soon as danger from frost occurs, placing them in very large boxes, encased all around with a stratum of dry leaves a foot thick—under, around and above them. Most agreed on the importance of packing them away in good, well ripened, (but not over ripe) condition, with the removal of all the imperfect berries. H. N. Langworthy had found the Rebecca to keep better when not too ripe or dead ripe. Dr. Sylvester had found three important requisites in keeping grapes, viz., perfect maturity, coolness of temperature, and as dry an air as possible. Judge Larowe was very emphatic in favor of perfect maturity for good keeping. He said the cheaper way was first to cure them, or evaporate the moisture, and then pack them away with alternating layers of straw, in boxes or shelves. They would thus keep till April. —— Olmsted of Genesee Co., kept them in drawers holding 25 pounds each, in a cool room, one box piled on another. He had found them thus to keep nearly as well as apples—they do not freeze so easily as apples. He said a neighbor has a cellar half above ground, where he keeps them in large quantity on racks, and now sends Isabellas to Buffalo, where they bring 90 cents per pound. He finds the Isabella, Diana and Rebecca to keep best.

New Varieties of the Grape.

Judge Larowe thought that the Diana, if it were only a better bearer, would be the most valuable of all grapes. The Delaware bore better, but was a poor keeper—he never could keep it *plump* more than four weeks; the Diana would keep as well as a winter apple. The Concord must be eaten at the very moment it is ripe—after that it becomes poorer. The Hartford Prolific he thought poor in quality, and only valuable for its earliness. These views appeared to be nearly those of other members. Remarks were made on the Iona and Adirondac, but none appeared prepared to give an opinion from actual experience. Rogers' Hybrids had been fruited by several, but they were not highly commended. President Barry doubted if any would be superior to the Concord. In reply to an inquiry, he said it was his opinion that the Rogers grapes were only seedlings of the Fox, and not hybrids. C. L. Hoag of Lockport, had fruited them for two years, and he thought very highly of some of them—while all are strong growers. Dr. Sylvester of Lyons, spoke highly of the Crevelling, which was agreed to by several others—the only objection being its loose bunches.

Best Varieties of Grapes for Succession.

A vote from the members was taken, consisting of 31 ballots, as follows:

Delaware, ...	30 votes.	Rebecca, ...	21 votes.
Diana, ...	26 do.	Concord, ...	14 do.
Isabella, ...	25 do.	Crevelling, ...	12 do.
Hartford Prolific,. .	23 do.	Catawba,...........	9 do.

Iona, Perkins, Allen's Hybrid, To Kalon, and Northern Muscadine, each 2 votes; and Lydia, Adirondac and Israella, each 1 vote.

Soil for the Grape.

G. Ellwanger said that Isabella and Catawba does best on heavy soil; but Delaware, Concord, Diana, and Rebecca, are best on light soil. Dr. Spence had a different experience—the best Isabellas growing on light soil and drift. Prest. Barry pointed out the importance of distinguishing relative terms in different localities—what is termed heavy in one place, would be light in another. E. Moody of Lockport, thought the best soil was a strong. or clayey one, but with a *dry bottom*, or with good drainage. Other instances were mentioned where the Isabella had grown and fruited to perfection on light soils, or composed of sand and gravel.

Discussion on Pears.

At the evening session G. Ellwanger read a valuable paper on the new varieties of the pear, as tested at the Mount Hope Nurseries. We hope on a future occasion to give our readers a copy of this paper.

Jones' Seedling was highly commended by H. E. Hooker, P. Barry and others, as a fine grower and bearer, and an excellent early winter variety, about the size of Winter Nelis. The *Church* had been cultivated and fruited for many years at Lyons and Rochester, under other names—some quite old trees are now in bearing. It has proved a valuable sort. G. Ellwanger stated that the *Beurre Gris d'Hiver Nouveau*, had proved the past season a fruit of great excellence, and the fruit had brought this winter no less than *twenty dollars* per bushel in New-York city. The *Edmonds*, a quite newly introduced sort by Ellwanger & Barry, was highly commended by the few present who had tasted it, as a variety of unsurpassed excellence, while it is a vigorous grower.

Failure of the Peach Crop.

E. Moody, of Lockport, was of the opinion that this failure is more frequent than formerly—and he attributes this to the clearing or cutting away of timber protection. He had observed that trees do best in sheltered places, and he had no doubt that belts or screens of evergreens would restore our peach crops. Dr. Sylvester thought that the increase in the cold of winters, from the freer sweep of winds, was the chief difficulty. On one winter night, observing the thermometer sinking far below zero, he went out with his men and built fires all through his orchard ; and although the cold was 32° below zero, the crop was saved. His neighbors laughed at him for thus trying to " warm all out doors," yet they changed their manner when they saw him selling his fruit for three or four dollars per bushel. The influence of large bodies of open water, in softening the intensity of cold, and the security afforded by planting on elevated situations, was freely discussed, but without bringing out any points not already published, on this subject.

Pears for General Cultivation.

A ballot was taken on the best *four* summer, *eight* autumn, and *four* winter pears for general cultivation, for home and market use, in Western New-York. Only 16 votes were handed in, by the most prominent fruit-growers present, with the following results:

Summer Sorts—Giffard,	11 votes.
Tyson,	10 do.
Doyenne d'Ete and Rostiezer, each	9 do.
Osband's Summer,	8 do.
Brandywine and Bloodgood, each	2 do.
Dearborn's Seedling,	1 vote.
Autumn—Bartlett and Sheldon, each	16 votes.
Angouleme,	14 do.
Louise Bonne de Jersey,	13 do.
Anjou,	9 do.
Flemish Beauty, Diel, and Belle Lucrative, each	8 do.
Beurre Bosc,	4 do.
Howell,	3 do.
Washington, Buffum, Des Nonnes, Onondaga, Kingsessing, each	2 do.
Clairgeau, Church, Superfin, Dix, each	1 vote.
Winter—Lawrence,	15 votes.
Winter Nelis,	11 do.
Easter Beurre,	8 do.
Winkfield,	5 do.
Glout Morceau,	3 do.
Josephine de Malines, Columbia, Beurre Gris d'Hiver Nouveau, each	2 do.
Belle Williams, Aremberg, Duc d'Bordeaux, Beurre Bachelier, Alencon, Jaminette, and Jones' Seedling, each	1 vote.

Profitableness of Pear Culture.

Bronson of Geneva, stated that a neighbor sold his best 4 barrels of Seckels—brought 25 dollars per barrel—other sorts 16 to 23 dollars per barrel. Dr. Sylvester had received $154 from a fourth of an acre of trees, and had found no serious drawback. W. Sharp of Lockport, stated that several of his neighbors had set out pear orchards six years ago, and none had now received from them less than $500 per acre—some $700—and if every tree should now die, the investment would have been good. Others had lost largely by blight. Such orchards, set out years ago, had been neglected, and produced little. On the whole, the amount of this fruit yet raised for market, does not appear to be large, and prices are high.

Profitableness of Small Fruits.

The general voice was strongly in favor of the Strawberry for profit—some had done well with the Rochelle Blackberry, although in some places the winter had injured the stems. The Doolittle raspberry had proved profitable with those who had tried it for market, being quite hardy and easily cultivated.

The following officers were elected for the Society for the coming year :—

President—Patrick Barry, Rochester.

Vice-Presidents—C. L. Hoag, Lockport ; G. H. Wheeler, Hammondsport ; J. J. Thomas, Union Springs.

Secretary—James Vick, Rochester.

Treasurer—W. P. Townsend, Lockport.

Executive Committee—T. C. Maxwell, Geneva : G. Zimmerman, Buffalo ; W. B. Smith, Syracuse ; H. H. Olmstead, Pavilion ; H. E. Hooker, Rochester.

HOW TO CURE HAMS.

Permit me to give you a recipe that will not only save a ham through the whole year, but will be fit to either boil or fry.

For such sized hams as can be cut from hogs weighing 250 lbs. average, I take 1 oz. saltpetre, 1 oz. saleratus, half-pint molasses, and a large handful fine salt, to each ham and shoulder. Mix all together in a tub or half-barrel. Then, with a small cloth, rub each piece and place in a cask. Do this twice each day for three weeks, and they are ready to smoke. For larger hams increase in proportion.

Smoking is another process requiring some care. Be careful not to smoke too much. Hams want to be dried as well as smoked. I would recommend a little smoke each day for two weeks, and then take down, roll in Union newspapers, put them in bags, and hang them in an upper room, and you can then have good hams the year round. This is much better than packing in brine, as they will always be too salt.

Jamestown, R. I. JOHN H. GARDINER.

TO MAKE GOOD CIDER.

The apples should be ripe and sound. Don't press the cheese until the cider runs clear. After filling the barrels, remove them immediately to a cool cellar—let them stand with the bung open until the sediment begins to go down ; then close them, and pretty soon after give it the first racking. About three rackings will remove all the sediment. Bottle before the weather becomes warm enough for the trees to put out ; fill the bottles one half inch from the corks ; let them stand twenty-four hours after filling ; then take a bowl of boiling water, dip the ends of cork to go in the bottle, in the water ; hold the bottle in the left hand by the neck, and drive the cork in with a piece of fence lath. The bottles are then buried in the sand in the cellar.

By this process our best Jersey apples will make cider that has often been drank by epicures for Champaigne wine, and will not change for years, only seeming to get more body.

Let no water be used on the straw.

In packing away keep the corks up. J. B. *Newark.*

REMEDY FOR THE WIRE-WORM.

Having the pleasure, occasionally, of seeing the Country Gentleman at my son-in-law's, Mr. Henry Wilson, who is one of your regular subscribers, I have just noticed under the head of "*Inquiries and Answers*," in your issue of 12th Jan., a short paragraph on the *wire worm*, which so vividly recalls my mind to old and cherished associations that I cannot refrain from addressing you on the subject. Unfortunately I am obliged to write from memory; but you may perhaps be able to refer to the back numbers of the Journal of the Royal Agricultural Society of England for confirmation, and to the particular articles I am about to allude to. When our great drainage movement in England had, about 1847–8, attained the first stage of its realization, amongst other subordinate evils, it became a question whether it might not in some degree be a means of eradicating that standard pest, the wire-worm; and, in consequence, much discussion of the subject arose, and several other remedies were proposed and canvassed. I think about 1847 a paper on its natural history appeared in the Journal of the Royal, from that eminent entomologist Mr. Kirby, with some suggestions for its destruction, founded on its natural habits; but which, on trial, proved to be valueless. You may also remember that about this time, the subject of rape-cake, in lieu of linseed-cake, was much discussed; and from this, at my suggestion, and on the observation and experience of a namesake with whom I was then much associated, a remedy was proposed, which on extended trial always proved thoroughly effectual, and has, I believe, become a settled practice for the purpose. In his celebrated paper on the "Progress of English Agriculture," published, I think, in the Journal of the Royal Ag. Society of England in 1848, Mr. Pusey refers to this remedy, and says in substance that it is the only one to be depended upon. I think my paper on the subject was published in the Journal in 1847, and the Society (unsolicited and assuredly most unexpected by me,) sent me £10 for it.

The remedy was simply the application of 3 cwt. per acre of rape-cake, *broken into small lumps*, (not crushed into dust,) like half-inch bones, and spread on the land, and then plowed in before sowing the seed. The worms are so fond of it that they leave all other food for this, and on examining the lumps of cake some little time afterwards, they are found to contain the worms in all stages from repletion to death and decay. Besides being, as Mr. Pusey said of it, a "perfect vermifuge," the application is a fertilizer of great power, and its double capacity of course enhances its value. I received at the time a general acknowledgment for its introduction; but a little incident which occurred to me personally some time afterwards will show its practical value, and the estimation in which it was held. Returning by railway from inspecting, professionally, some drainage works, I got into a compartment with two other well-to-do farmers, who soon began "to talk shop," and the wire-worm pest, from which one of them had suffered very severely, was their subject. The sufferer said he had two seasons before last a large crop of potatoes, which he valued at about £200; that not knowing what to do to prevent injury to the subsequent crops, he made it his special business to seek for some remedy from every farmer he met, but without finding one, until he accidentally was shown an extract from my paper in the "Mark-Lane Express," which struck him, as he said, to "appear so likely to answer" that he gave it a fair and extensive trial; and he again said, "I never saw another wire-worm, except what were either dead or dying in the lumps of cake;" and added he, much to the gratification of my vanity, "it has saved me a large sum of money, and if the farmers of England did their duty, they would make a very handsome present to the person who suggested it," to which, of course, I could but say, "amen!" Finding, however, so marked an example of success, I made myself known to him, and he then farther told me how he had become deeply interested in the experiment—as it was to him—and that finding from examination it seemed likely to be effectual, he simultaneously tested it in other ways, by collecting numbers of healthy worms from other land and putting them into boxes of soil with the lumps of cake in various quantities, and under varying circumstances, and invariably with the same result—the lumps all crowded with distended, dying and decaying worms. Many of your horticultural readers may perhaps know from experience, that *Pinks* are very subject to be cut off by the wire-worms. They will find the application of a few small lumps of rape cake placed round the roots of the plant, an inch or two under ground, a perfect preventive. It was from seeing this remedy so applied that its extended use was suggested.

I suppose the article of rape-cake is easily procurable with you; in England it is in common use, both as food for cattle and as a top-dressing for land.

Lennoxville, Canada East. JOHN H. CHARNOCK.

THE BRAHMA FOWLS.

Messrs. Editors—These fowls seem to give good satisfaction to all who have given them a trial, and from my own experience and the statements of others, I regard them as the best variety introduced among us.

They are remarkable layers, usually commencing as early as Christmas, and continuing with but slight interruption till moulting time in the fall; and not being much inclined to sit, they lose but little time from laying. They will not only lay more eggs in a year than any other variety, but lay when eggs are most desirable and bring the highest price—in the winter. They are exceeding hardy, grow quick, and for market are superior to all others, being large and plump, and their flesh light colored, tender and juicy, and unlike any other kind, retain the latter qualities when old. There is no difficulty in raising nearly all the chickens, as I have never known them to have the gapes or any other disease.

Their color is white, with a beautiful cream-colored tinge; wing and tail tipped with black, and the neck hackle of the same hue as the body, but finely penciled with black, giving them altogether a very fine appearance. They are very quiet and harmless in their disposition, and easily confined if desired.

I observe that they are highly recommended by the leading agricultural journals of England and America. J. S. Ives, Esq., of Salem, Mass., in a communication to the New-England Farmer, says—"After keeping upward of thirty different kinds, I have found none to compare with the Brahmas for every desirable purpose to the farmer, especially as winter layers." H. J. L.

Granville, N. Y.

FEED REQUIRED BY CATTLE.

Near Geneva, 25th Jan., 1865.

Messss. Editors—I notice our friend L. Bartlett's article on wintering and fattening cattle, &c., in you issue of 19th inst. We have got many valuable articles from friend B., but I see he is not at home when he goes into the cattle business. In the first place, judicious cattle feeders will only buy such cattle as are at least fair beef, to start with, unless they can buy prime or extra fat cattle at about the same price per lb. as those that are only what may be called fair beef. Now if the latter is of good size, I say from 100 to 1500 lbs.—the larger the better, if the breed is good—and he adds 200 lbs. to their live weight, he not only gets the pay for the 200 lbs., but in all probability, in the present state of the market, may get all of 4 cents per lb. on the 1100 or 1500 lbs.. he bought, by making extra in place of only fair beef, when he got them. Good cattle could be bought here last October for 5½ cents—now they are selling at 9 and over. There have been very few seasons in 40 years, when cattle and sheep have paid so well for keep, so far, as they have done this year, even at the high price of hay and grain ; and it is generally so ; when feed is high, stock is brought lower, and fewer being fed, fat stock sell higher. I know of oxen that have paid over $70 each for less than two months' feeding, and a good part of that time on pumpkins, which are raised at little cost, and not saleable here, being a perishable article when the frost comes.

It is all nonsense to talk of those Hohenheim oxen eating 66 lbs. of hay daily. It must be *different* hay from any I ever saw, or a different kind of cattle, if they could eat the half of it—20 lbs. of hay will satisfy any cattle I ever fed, for a day. The way to make cattle pay for winter fattening, is to first have the best breed, and in good condition ; if never fed meal before, feed quite light for two weeks ; after that, increase as you see their appetites increase. Durhams and their grades are the best ; Herefords are also excellent, but don't get to the weight of Durhams. Small cattle seldom or never pay one for winter fatting.

Those who have now sold, have got extra pay for the feed. How those who keep a month longer will do, time only can determine. I know sheep sold lately at $10 each, that would not have sold for $5.75 in the early part of November. Both sheep and cattle pay quite an item in the manure they make. Fatting stock make manure that tells where it goes.

JOHN JOHNSTON.

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TICKS ON SHEEP.

Messrs. Eds.—Your Canada correspondent gives his method of killing ticks on sheep. Five years ago I wintered 400 sheep. In the course of the winter they became very tickey. I procured an apparatus and seven pounds of tobacco, and commenced smoking, and thought we did it effectually. My son of 11 years and self could smoke 25 per day. In this way we went through the flock. At the end of twenty days, we examined the first, and found that but little advance had been made. We then applied sulphur, but did not succeed in fully destroying them. I have tried the Extract ; it does very well if thoroughly done. But let me tell you the prettiest thing, and the surest: Take one part common unguentum and one part lard : mix thoroughly, and rub a small quantity on the bare spot under the fore legs. If very bad, a little on the dewlap from the brisket up to the throat.

I very much dislike tobacco, and cannot use it in the forms recommended without being sick, and to me any way to escape its use is a great favor.

The above may be no new thing, but as I never have seen it in print, I thought I would mention it.

McIndoes' Falls, Vt. S. GLEASON.

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Rearing Calves on the Soiling Principle.

About the 1st of April last, I commenced raising ten heifer calves for the dairy—learned them to drink at three or four days old, and fed them the milk of five cows—two hundred weight corn meal, and what hay they would eat till 15th May. Milk and meal were then discontinued, and for the next two months they had about ten quarts sweet whey each per day, and what fresh grass (clover and orchard grass,) they would eat, fed three times a day—of which they consumed half an acre. The next sixty-three days they were fed the sowed corn that grew on half an acre, and the same allowance of whey as at first. About the 20th of Sept. they were turned into wheat stubble ground seeded to grass, last spring. When six months old, the heaviest one weighed 430 lbs., live weight, and the whole lot averaged *four hundred pounds each.*

The expense of cutting and feeding the grass and cornstalks, I think about the same as harvesting and threshing an acre of wheat.

The milk fed, if made into cheese, would have sold at,	$55.00
Two hundred weight corn meal at 16 s.,	4.00
Hay, estimated,	1.00
One acre land to wheat would have brought,	30.00
Value of whey, say,	10.00
Eight tons hay is a great plenty to winter them, worth	40.00
Total for one year,	$140.00

Equal to $14 per head for yearlings, which is about double the cost of "peace prices."

I have been engaged in dairying and stock-raising for the past twenty years, and have tried nearly all the different ways of feeding calves, and consider the experiment of the past season much the best. It produces *very superior animals*, and is no more expensive than the other plans. G. D. Curtis.

Fon Du Lac Co., Wis.

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Raising Grapevines from Eyes.

Messrs. Editors—In all the books I have been able to procure upon the cultivation of the grapevine, it is laid down as an axiom that vines cannot be raised from single eyes without a good hot-bed and bottom heat. I think I have disproved this theory the present summer, so far at least as it relates to Concord vines. I raised a lot of very good ones in a cold-bed of rich earth, with no bottom heat, and that too, although snowy and cold weather set in after the buds began to swell. What is more striking, is the fact that I transplanted some of the eyes (as soon as they had three leaves,) into the open ground, where they remained through the dry summer, and made stout canes, three feet high, and each one had three or four roots, as large as a goose-quill, and from three to five feet long. Of course I do not mean to say that they were very desirable vines—for I should prefer plants with a compact bunch of fibrous roots, but I think the experiment shows that Concords can be raised without bottom heat. J. M. M. Jr.

Walpole, Mass.

An Experiment in Feeding Two Hogs.

Messss. Editors—A neighbor of the writer has furnished for publication the following account of feeding two hogs. These hogs were bought Dec. 1, 1863, for $3 each, being seven weeks old. They were fed one quart of corn each per day, and the swill made in a small family, and the sour milk from two cows, after they calved in March, until the 1st of June. They were then turned into an orchard, and kept on grass, and the sour milk, &c., from the house, until the 2d of Sept. They were then taken from the orchard, and in addition to milk, &c., from the house, were fed fine middlings, (mill-feed,) of which on the 1st of October they had consumed 232 pounds, at a cost of two cents a pound. On the 1st of Oct. commenced feeding 10 bushels of peas, which cost $1.25 per bushel. These, with sour milk, &c., lasted until into November. They were then fed corn in the ear until they were killed, Jan. 6, 1865, when they had consumed 30 bushels of ears, which cost 50 cents a bushel. They were 15 months old when killed, The next day after they were killed they weighed, in market, 899 lbs., and sold for 16 cents a pound, bringing $143.84. This makes the account stand as follows:

Dr.

To cost of two pigs,		$6.00
Corn from Dec. 1 to June 4, 11 13-32 bush. at $1.12½,		12.82
232 lbs. mill-feed, two cents,		4.64
10 bushels peas, $1.25,		12.50
30 do. ears of corn, 50 cents,		15.00
Growth made by milk, &c., estimated at 300 lbs., at 16 cents,		48.00
		$98.96

Cr.

By 899 lbs. pork, at 16 cents,	$143.84	
25 lbs. lard, at 20 cents,	5.00	
		148.84
Which leaves a profit of		$49.88

Remarks.—The value of the milk, &c., from the house, is estimated much higher in the above account than is usually realized by farmers; but so is also the returns and profits realized on the other kinds of feed higher. Now there must be some reason for this, and as I do not understand there was anything particularly noteworthy in regard to the hogs, though undoubtedly they were good ones; the principal reason, without doubt, may be found in the manner of feeding. As hogs are usually kept, they are fed but little more than enough to support the life of the animal, leaving but a small portion of their feed to promote growth; consequently there are few farmers that realize more than 100 lbs. increase to the hog for these articles, or over 100 lbs. increase in pork for each cow kept on the farm; while with very many farmers, this increase, calculated either way, will fall a good deal short of 100 lbs. But in this case, instead of feeding but little more than enough to support life, they were fed enough to keep them growing right along to the best advantage. So that while but a small proportion of the feed went to support life, a large portion went to promote growth and to fatten the animals, thus giving a large profit on the feed. Consequently, what appeared to me at first as a large estimate for the increase given by the milk, &c., from the house, farther consideration makes appear as a rather moderate one, and as being more likely to be under than over the actual result. And it is the same in regard to each of the different kinds of feed. They were all fed out in a way to take the least proportion to support life, and give the greatest amount to produce an increase of growth and fatness; thus being a good example of the teaching of the Co. Gent., that the fattening of the hog should begin with the pig. Should this be the case, and all of the hogs fattened be made to gain nearly one pound a day, as was the case with these hogs, the same hogs would make the same amount of pork in a great deal less time—often in one-half, and generally very little if any over two-thirds the time that hogs are usually kept and fed.

For instance, it is very common for May or June pigs to be killed in December or January, when they are 18 to 20 months old, and then to average from 300 lbs. to 400 lbs. dressed. Now if these hogs had been made to gain about one pound a day, they would have reached the same weight in from ten to fourteen months; thus saving the cost of keeping them from six to ten months, which all know is no small item. Or if they had been made to gain about one pound a day, they would have averaged from 500 lbs. to 600 lbs. when killed; giving a great deal larger profit on their feed, and accounting for the difference in the profit on hogs as usually kept, and on those I have here given an account of.

At the first thought the price of the pork will appear higher in proportion to the price of grain, than is generally the case. But I find that this is not so—as taking pork at $5 a hundred, and corn and peas at 50 cts. a bushel, the per centage is nearly the same. While at the same time the prices paid for feed are such as plenty of the different kinds could have been bought for at the time; while the corn fed the first winter and spring was some 15 or 20 cts. higher than it sold for in that winter, the price being put at what he sold some for in the spring.

As the hogs were not weighed while they were feeding, there is no data by which to determine the actual or relative amount of increase, realized by feeding the different kinds of grain. But allowing 350 lbs. for the growth, produced by milk, &c., and for weight of pigs when purchased—it being kept in mind that I am all of this time considering dressed weight—then there will be about 550 lbs. increase to be credited to the grain and mill feed. Now, calling the corn 56 lbs. to the bushel, as probably it was not dry enough for market when fed, and the peas 60 lbs. to the bushel, those hogs were fed 2,310 lbs. including mill-feed; so if they gained 550 lbs. while consuming this amount, then it took 4 1-5th lbs. of feed to make one of dressed pork; while if they only gained 500 lbs., it took 4 3-5ths lbs. of grain to make one of pork. But, in either case, showing a very good gain for grain fed without grinding; and making the pork cost a little over eight cts. a lb. in the one case, and less than nine cts. a lb. in the other. F.

Orleans Co., N. Y., January, 1865.

* * *

Pennsylvania.—The annual election of the Pennsylvania State Agricultural Society took place at Harrisburg, on Tuesday, January 17th, resulting as follows:

President—A. Boyd Hamilton, Dauphin county.

Vice-Presidents—One from each of 24 Congressional districts.

Additional Members of the Executive Committee—William Colder, Dauphin; J. R. Eby, Dauphin; B. G. Peters, Dauphin; John H. Ziegler, Dauphin; Peter Hurdick, Lycoming; Frederick Watts, Cumberland; James Gowen, Philadelphia; David Taggart, Northumberland; J. S. Haldeman, York; Thos. P. Knox, Montgomery.

Corresponding Secretary—J. Young, Dauphin.

EVERGREEN TREES.

Messrs. Eds.—W. H. makes some inquiries in the last number of the Country Gentleman, relating to the removal and culture of evergreens. My experience goes to show that such trees may be as safely and successfully removed as the most hardy deciduous trees, by observing proper care in the operation. Evergreens frequently spring up in old pastures, where the soil is cold, damp and thin, underlaid with a clay subsoil, so stiff that the roots cannot penetrate it; consequently no tap roots are formed, for circumstances utterly prevent it. Trees from such localities are easily taken up, as soon as the frost is out of the ground in the spring, with the roots very nearly entire, and the sparse soil in which they grew, adhering to them. By careful removal to the place of future growth, this soil is all retained, and instead of suffering from the removal, they at once commence growing faster and more healthily for the exchange, just as a valetudinarian often begins to improve on change of locality, and other favoring circumstances. In swamps, we have often found young evergreens growing in the mosses, living and decayed, which have accumulated over logs, thrown down by winds and allowed to remain. When found under such circumstances, the moss that sustains or gives them a foothold, is usually filled with fibres from the roots, while the roots themselves are very apt to stretch over the log into the soil below, in search of future food. Here, a sharp axe may safely be used to cut off the roots smooth and clean, where they enter the soil, and this done, the roots on the log, with the moss that sustains, can be raised from the log as entire as they were found, and in this condition, removed to their new locality. The growth of such evergreens soon becomes vigorous and healthy, and they are better by far for the removal. From such localities, they can be taken at almost any time, with perfect safety.

But, for the removal of large trees, from deeper and drier soils, I should give decided preference to the season when the buds were expanding into new stalk and new leaf, and would rather choose that, even an inch or two of new growth had been formed than to effect the removal a month before the vital energies of the tree commenced the work of spring. At this season of expanding bud and early growth, nature seems to have endowed evergreens with a wonderful power of taking care of themselves, so that unless this power is deprived them by the mutilating hand of man, there is little, if any, danger of transferring them from one locality to another. But mind this word, *mutilating*. I would not be responsible for the life of a tree, however small, or of whatever species or variety, for an hour after its removal, if the operation is performed in a clumsy, bungling, get through with it quick manner. Trees so managed may be expected to die to save themselves from the sufferings of future neglect and carelessness.

In the culture of evergreens, it is a mistake to suppose anything is gained in setting large trees. Where two are put out, one of them two or three feet high, and the other six feet, at the end of ten years the balance will be greatly in favor of those small at the setting. This is probably owing to the fact that a greater amount of root and fibre, in proportion to the size of the tree, is obtained with the small than with the large one; consequently it receives less check of growth in the effort to adopt itself to its new home. The roots of a tree are all important to its healthy growth, and the more of them and less they are mangled, the better.

To his inquiry, "when is the best time to prune pine trees?" I answer, if they, or any other kind of evergreens are set out for ornament, *never*. A great beauty in evergreens consists in the true and symmetrical form of their heads. Their branches, from the continued masses of verdure they cantain, spread more laterally than do those of deciduous trees, consequently a regular and fine head cannot be formed where the lower branches are taken off. The most beautiful trees of this class I ever saw, rested their lower branches of dense foliage, in a circle, on the ground, and with them for a base, and the trunks for masts, perfect cones of verdure, from twenty to thirty feet in height, were formed as true as the turners skill could have made them, and so dense that the rude winter winds could hardly find a place to send a "lull-a-by" through their branches. An evergreen left to nature, and retaining all its branches from the earth upward, is a natural beauty. One pruned of its lower branches, is an artificial deformity.

Pinching in the buds, retards the growth of the branches, and gives density to the foliage, and consequently increases the beauty of the tree. This may be done with safety, and oftentimes to advantage.

Richmond, Mass, Jan. 9, 1865. WILLIAM BACON.

SURFACE MANURING.

This subject has been somewhat discussed of late years, yet still there exists diversity of opinion concerning it. If I can aid in remedying any doubt in regard to its practicability, the object of this paper will have been attained. A leading, if not *the* leading objection to this practice, arises from the apprehension of the loss of the gases thereby sustained. There is plausibility and apparently much force in the objection. To the mind of the writer it was once one of the most cogent arguments against surface manuring. But experiments and observation have deprived the argument of its force. Although I may not be able to satisfy others on this subject, yet my own mind is convinced that grass land, not only, but land on which wheat is to be sown, is most immediately and permanently benefitted by applying manure on the surface. When thus applied to land on which wheat is to be sown, it should be thoroughly incorporated with the soil, by means of harrowing, that it may thus be protected from the effects of drought. But as to this escape of gas, I have noticed that many men are stumbled at it, who never seem troubled at all at the escape of gas from their manure heaps, which lie piled up in their yards from early spring till fall. What becomes of the gas which thus exudes, filling all the region for rods around with an odor hard to be endured? Is it likely that more gas would escape from these same manure heaps if they were judiciously applied to the land during the winter and spring months? Let us look at this matter from another point. In order to the decomposition of manure, three things are essential, viz., air, heat, and moisture. Now, I have spoken of carrying manure on the land during the winter. It is supposed that this manure is the recent accumulation of the stables, made up of litter and the ordinary droppings of the stock. My proposal is, that instead of throwing it into piles to heat and consume itself, you scatter it over your land. My reasons for making this proposition are, in part, at least, as follows: If covered up with snow, it will be excluded from both air and heat sufficient to promote its decomposition. If there is no snow, the cold will prevent its decay, and none of its essential properties will, therefore, escape. But let spring come with its warm sun and genial showers, and the conditions of its decomposition are all fulfilled. It has now air, heat and moisture, and as its changes are going on, all its valuable properties are absorbed by earth or air, and the springing plants suck up its enriching qualities, and shoot up with unwonted vigor. Such is the theory, and such the facts which support it. Men may talk about the loss of gases when manures are applied to the surface, but I marvel if the loss is anything to be compared with that which is sustained by the ordinary barn-yard exposures. Let no one suppose, however, that surface manuring is to be indiscriminately practiced. Thrown on the surface of plowed fields, and there exposed for a long time to the scorching rays of a summer sun, it is doubtful whether your land will derive any benefits therefrom. So, if thrown on meadows parched with drought, and destitute of any aftermath to protect it from the heat of an autumnal sun, it may prove barren of any good results. But applied to meadows soon after mowing, or in the winter or early spring, or to plowed land, and thoroughly harrowed in, it is believed that the cases are rare, where visible fruits will not follow. S. W.

Oneida Co., N. Y.

PRODUCT OF SIX ACRES.

Messrs. Editors—I see by the Germantown Telegraph, that Mr. John McGowen raised, on six acres, produce to the amount of $1,001.50, besides a large variety of vegetables and fruit for home use. I have done rather better than that, and will give you a statement of it. I am not in the habit of writing for publication, but as I have been greatly benefitted by reading the Co. Gent. for several years, I could certainly not object to give in return any ideas that I might have, if thought of any value to your readers.

But about the six acres. It was land on the "Silver Run marsh." I have 25 acres of the same kind. Seven years ago the farm was offered for sale—*marsh thrown in.* Five years ago I began to underdrain, and have been doing what I could at it ever since—the difficulty is to get fall enough for the drains. This depends on the main drain—an open ditch from 8 to 14 feet wide, which empties into the Delaware River. This drain belongs to the "Silver Run Marsh Co." and is two miles long from where I live. The few who desire to improve have had a constant warfare for several years, with those who don't believe in improvement, as is the case in all marsh companies that I know anything about. Well, we have at last got fall enough to have our underdrains from 18 inches to two feet deep. I have got sixteen acres done, and six acres—the first crop ever grown on it except weeds—produced last year as follows: 550 bushels potatoes, all sold that I had to sell at $1.50 per bushel—200 bushels corn, for which I am offered $1.65—1,000 heads of cabbage at 5c., $50—1,000 bundles blades, sold at 3c., $30—corn fodder worth $40—making in all $1,275, besides the family was furnished with a supply of tomatoes, cucumbers, egg plants, Lima and string beans, turnips, and about 500 cabbage too small to market. Also a lot of pumpkins. J. Higgins.

McDonough, Delaware.

ABOUT GRAPES.

Another year's experience with this new interest, confirms former experience, and much eagerness is manifested to obtain information about grapes. As to kinds, the Delaware still holds the ascendancy, and I presume 50,000 of these will be put into vineyards this spring in this town. But many other kinds will be put out to some extent. Isabella is not ignored; but as the present vineyards are mostly of this kind, Concord, Catawba, Diana and Clinton will come in for a larger space than it.

The Catawba is quite healthy on our deep gravelly soils, and if, with improved care and culture we can give it a little longer season, it will hold a prominent place on this south-shore grape land. For the last six or seven years that I have grown Isabella and Catawba, the latter has been of more value than the former.

What we need is a good system of training and proper care in preparing the ground, and in its management after planting, manuring, &c.

Grapes have grown here, and very fair ones too, with very poor care, and some have flattered themselves that it is about as good as any way. When too late to retrieve the loss, it is feared we shall see the error. Nothing pays better for good care than the grape. I would that we could all take lessons from such men as John E. Mottier of Cincinnati, or Dr. Grant of Iona, and others of the same class. Grape-culture has quacks like all professions. Some men seem to learn it all after passing a few days or weeks where grapes are grown, and then fill the papers with their knowledge, which is worse than nothing. We want the best knowledge of our most experienced cultivators; and I was glad to see in your last No. a communication from Dr. Grant. We hope he will give us more. Let us have it from first hands.

Fredonia, N. Y., Jan. 20. A. S. MOSS.

GOOSE FARMING.

"Off with their heads! Away with the filthy things! They eat all before them and kill what follows after." Such are frequently the invectives from those of passing good sense, on most farm economies, but not entirely "sound on the goose."

Many an intelligent farmer will pay forty to sixty dollars for a bullock, to secure one hundred to one hundred and fifty pounds increase from summer grazing, who would hoot the idea of growing as much meat with less pasturage and the agency of an old goose, costing, perhaps, fifty cents. March goslings, with access to grass and a trough of water, will eat their way without much trouble up to six or eight pounds by Michaelmas.

Extra trouble in marketing is amply compensated for with pickings. D. *North Bend, Ohio.*

WASTING MANURES.

Messrs. Tucker—I have long read and admired your paper, and wherever I go I like to see it. Here in Iowa, I know there are some who cannot do without it, and I doubt not your circle of readers will increase as the State grows in agricultural wisdom.

I have been aware of the great errors which obtain here on the subject of manures, and of rotation of crops, but I hope a brighter day is dawning. New-England farmers have told me that their fathers did not economize fertilizers and apply them as is now done; and I have replied, that it was that very course which left to their sons so many worn-out farms, and so much greater necessity for economy and system.

Even the richest soil to be found in the rich West, contains but a limited supply of food for vegetation, and every crop takes somewhat from that store. Thus corn requires certain specific elements, and a repetition of that crop from year to year must take from the soil just those elements, and the yield per acre must inevitably decrease. This reasoning I conceive to be unquestionable; and yet on how many farms here do we see this exhaustive process going on year after year! Some judicious system of rotation might lengthen out the period of fertility, and that even would render the exhaustion only the more perfect in the end. The day will come when your correspondent "J. L. B." (Dec. 15, 1864,) and all others, will use their manures for other uses than "filling up holes" in the street.

I have seen a man here haul the manure from his stables out on to the ice of the river, that it might be carried down the stream. The farmers in the Mohawk Valley did this once when their "dung-bees" were in vogue, but I fancy you will not find any of them doing so now.

But even here, there are farmers more acute and far-sighted than your Springfield correspondent, quoted above, who are awake to the value of manure even on rich prairies. I had lately the pleasure of attending the annual meeting of the Agricultural Society of Iowa, and it gave me great pleasure to find the members an active, wide-awake set of farmers, enthusiastic in their calling. I found that among them the good old New-England principle of feeding the produce of the farm upon it was gaining ground, and I can guarantee that none of them will wish you to "discontinue sending them the Country Gentleman because you write about manures."

But there are many other subjects which need discussion in the agricultural papers, and the Eastern press, from the length of experience in that region, and for other reasons, is best adapted to do it. An agricultural paper is printed here, but its columns contain little that is original, bearing upon its speciality, and so much with no relation to that subject as to alienate some of its friends. Long and frequent extracts from the Country Gentleman are interesting, but why not subscribe direct and get the substance at first hands?

Before I close I wish to ask whether a discussion of the question of the desirability of "Special Farming" would not be interesting to your readers? This subject was before the Lee Farmers' Club a short time ago, and I notice that the Club at Haverhill was to discuss it also. Would not a compend of the latter discussion from Secretary Chase, be interesting to your readers? I know it would to one.

I agree with you that this is no time to discontinue Farmers' Clubs, but rather to engage in them with new zest. Arthur Gilman *of Glynllyn.*

Des Moines, Iowa, Jan. 19, 1865.

POTATO-ONIONS.

"N. E. C." asks for information about these onions. I have grown them for fifteen years. A good garden soil in high condition, is essential to success. Fall plow if you can—work in the spring early. Keep a smooth level surface. Mark in rows 15 inches apart. In this mark I run a wheel hand-plow to deepen it; in this set your onions; if large, 4 to 6 inches apart, and less for the small, say 2 to 4 inches, just covering with earth, and placed so as to be nearly even with the surface. The seed grows in the centre of the large onions—no stalk, and the onions producing seed or sets are good as any. I have always used them mainly for green onions for market, and consequently could not tell the yield, but presume 300 to 400 bushels might be grown to the acre. I clear off what is left in July, and plant celery. A. S. Moss.

Fredonia, N. Y.

Eds. Co. Gent.—I notice an inquiry for potato onion *seed.* The potato onion does not produce seed, but re-produces itself somewhat like the potato—hence the name. You set out a perfect onion in the spring, and as the top grows the bulb rots and sloughs off, leaving from five to ten small germs, from which the tops spring. These make small onions, the whole weighing but little if any more than the original onion. While in this stage of growth they make a very fine salad onion. Any number of these germs may be plucked from the roots for that purpose, and what remains will be all the better for it. These small onions are set out the second year, just as you would set out top onions, and produce the perfect onion. They grow to a fine size, and are very mild, crisp and tender, having very little of that pungent, tear-producing flavor of the common onion. They are so very mild, that persons fond of that root will eat them, with the addition of a little salt, just as they would a raw turnip or an apple. B. C. Hood.

Campbellville, Ky.

P. S. The great quantity (about one-seventh of the crop,) required for seed, and the extra labor of setting out and cultivation, forbid the cultivation of this onion as a field crop, unless their superior excellence would command for them a much higher price than is obtained for the common onion.

Gum Shellac for Covering Wounds on Trees, Vines, &c.

Is it generally known that a little gum shellac dissolved in alcohol, applied to wounds on fruit trees, where large limbs have been cut off in pruning, or where the bark has been destroyed by mice or other causes, will effectually exclude the air and prevent decay? It will also immediately stop bleeding in grape-vines, where pruning is delayed until the sap starts. The liquid is easily applied, and may be kept for years ready for use, if kept tightly corked in a bottle.

Richmond, Ind. E. Y. T.

ONION CULTURE.

Messrs. Editors—Having seen an inquiry by R. D. R., in the Country Gentleman of Jan. 26, in relation to raising onions, and having had some experience in raising that vegetable, I will try to inform him.

The kind of Soil.—The soil I prefer is a good sandy loam.

Preparation.—If you have some very rotten manure free from weed seed, apply forty or fifty two-horse wagon loads to the acre. If you are not sure your manure is free, or nearly free from weed seeds, you had better not apply it, for there will always be an abundance of weeds at best. In place of manure use two hundred bushels of leached ashes to the acre, and plow six inches deep, and then drag and pulverize the ground well; then roll with a light roller to mash lumps, and drag again or rake to make light and fine on the surface. The past year I used a fine-toothed drag, that cut once in two and a half inches, behind the roller, so the ground was finished at one operation.

The kind of Seed and Quantity.—The kinds that I have raised most are the Yellow Danvers and Large Red, principally the latter. The amount of seed per acre will depend on the knowledge one has of its age. I prefer to sow as near three lbs. to the acre as possible, if I know the seed was raised the year previous; if not sure apply more. Last year the writer saw an acre of onions on which there was only three-fourths of a lb. of seed put, but the onions were not a third as thick as I generally leave them.

Sowing.—The time I recommend sowing onion seed is just as early as the ground can be properly fitted in the spring. In sowing it is best to drop a seed as often as one an inch, so as to have plenty come up. If the seed are sown by hand, they had better be mixed with sand or plaster, so that they can be sown without danger of getting too thick. I prefer a drill to sow with, because it sows evener than any person can possibly by hand. In regulating a drill to sow, it is best to try it on a floor, with a slide in the drill that you think about right; if it sows too thick—which you can readily see by counting the seed dropped—substitute the slide in the drill by placing one with a smaller hole, and so experiment till the right quantity is dropped. Cover the seed one-half inch in heavy loam soil, and three-fourths an inch or more in light soil, and roll it smooth. Sow the rows sixteen to eighteen inches apart, as that is near enough if they grow rank, and it is handier to weed when that distance, after the onions get large.

After Culture.—By all means start a hoe or some weed-cutter as soon as the onions are large enough to see the rows. Some recommend sowing radishes with the onions so to follow the rows more readily.

When the onions are up to four or six inches, thin to one inch if the ground is *very rich;* if medium, to two inches; if poor, to three or four inches. One inch may seem to make near neighbors, but the writer has practiced that plan on first-class soil, and found the onions to get plenty large enough. I have had them yield five bushels to the rod, for a number of rods in succession, but from two to three bushels is a good average. Any time after sowing seed, give as a top-dressing (before a rain if possible,) equal parts of plaster and hen manure, at the rate of four quarts to the square rod; and through the season another dressing, the same, or unleached ashes, at the rate of a peck to the square rod.

Charcoal is also an excellent dressing for onions, or if a person has plenty, it would be a good plan to powder it as fine as possible, and apply before plowing. Ever bear in mind to keep the weeds down.

I am aware that some onion-raisers recommend breaking down the tops when the bulb is nearly grown, thinking that it will bottom better. I have always considered that a "granny" notion, and let the tops fall naturally.

Harvesting.—When a majority of the tops are withered down, I take a potato hook and carefully pull the onions, let them lay on the ground till cured, then cut the tops off and market, if the market suits; if not, it is better to place them on a barn floor or some dry place.

Raising Seed.—In raising seed always pick out the largest or medium sized onions, as near the same shape as possible. When the time arrives for setting out, mark rows as wide as for corn, take a hoe and dig a trench three inches deep, and place the onions eight inches or more apart, and cover and press the ground well. A row of seed can be sown well enough between these wide rows, and will yield well. The object in placing the onions for seed so far apart, is that there may be plenty of room to keep out the weeds. I once planted some onions for seed with the rows not more than sixteen inches apart: the consequence was I could not get among them to weed; when large, up came the weeds and blasted the onion seed. When the seeds are black and begin to get hard, cut off the stalk six inches below the heads, and spread where they can dry; thresh out the seed, and clean as clean as possible with a fanning-mill; then place the seed in a pail of water and stir; the poor seed will arise, which skim off; then spread the seed that settled in the sun or near a stove to dry, and I will warrant that you will have better seed than can be bought of nine out of every ten seedsmen.

I would say to R. D. R., by all means keep onions out of your quack grass. Henry Percey.

Newark, N. Y., Jan. 27, 1865.

A GOOD LOT OF PIGS.

Eds. Co. Gent.—I noticed in your paper of Jan. 5, an account of two pigs, 7½ months of age, that weighed 640 lbs. We have just dressed seven pigs, all of one litter, just 4 months and one week old, that weighed 789 lbs. nett—an average of 112 5-7th lbs. They were weaned at two months of age, and then slopped with house slops, cooked pumpkins, and shorts, until corn gathering, when they had the soft corn until two weeks before they were dressed, when they had sound corn on the cob. They have not had to exceed 20 bushels of corn atogether. It is not a brag operation, but we like to let our New England friends know that we are not asleep when we read the Country Gentleman.

Richmond, Ind. CHARLES G. CARPENTER.

Sorghum for Soiling.—Can any of your readers who have practiced soiling, tell how sorghum answers for that purpose? Is it in any respect, either as to yield or milk producing qualities, so good as corn? F. R. *New-York.* [Any reader who may have tried sorghum for soiling, will oblige us by reporting the result.]

FARM BOOK-KEEPING.

While the importance of farm accounts is acknowledged by almost all, a very large proportion of farmers are deterred from entering upon any plan, from an apprehension of the difficulties of it, and from the notion that there must be some previous study of a system, to be qualified for it. These difficulties are rather magnified by the suggestions of some zealous advocates of an elaborate system, and perhaps by the notices which have been met, of the set of books prepared for the use of farmers who are disposed to keep accurate accounts.

The plain farmer is frightened at the thought of so much study and labor, and is disposed to leave that advanced step to the next generation, who shall be educated for it. Some who have made a beginning, and furnished themselves with books prepared to their hand, have, after a while, abandoned the work, discouraged by some difficulties, which come of their inexperience, and by some perplexities, which come of their undertaking too much at first.

Now accurate farm accounts may be kept in a manner so simple, and with so little time and labor, that the plainest farmer, with a common education, need not be deterred by any difficulties or perplexities. I know a farmer, who has always kept accounts of all his business, who is able to tell you the income and expenses of his farm, for every year for twenty-five years; the annual expenses of his family, the return per acre of each crop of the farm, for every year, and the value of each crop, the weight and value of all animals slaughtered on the farm, the sale of all animals sold from the farm, the cost of all purchased, the weight and value of all wool sold, and average weight and value of the fleeces, the cost of all buildings and other important improvements on the farm. Of course from all these facts collected, may be deduced the general profits of farming, the relative and positive value of different crops, the comparative importance of grain and grass, and many interesting and valuable principles.

Besides these things there are recorded changes of the seasons, the progress of vegetation, the time of planting and sowing, &c., the arrival of birds, and many other items of interest. And all the books necessary for these accounts you can hold in one hand. His plan is so simple, that it hardly comes up to the dignity of a system. It is needless to say that it is of practical interest to himself for very frequent reference.

Now every farmer is able, without much study, to do as much as this, and those whose taste and opportunity would induce them to adopt a higher style, will readily find out for themselves a more elaborate system, and will probably avail themselves of the help, afforded by the books prepared for such.

No young man should enter upon the management of a farm, without being prepared to keep an exact account of his business. It is essential to a just estimate of it. The difference between a record of the principal items of income and expense, and a complete record of all the items, will surprise those who have not tried it. And it is really easier to keep a complete record than to keep a partial one, and guess at the rest.

The recorded experience of a number of years, is a chart which enables the holder to keep clear of many damaging errors not only, but to push boldly out in a course which shall lead to certain success. N. Reed.

RAISING CORN FOR FODDER.

I think I have got an idea from your correspondent on cornstalks, "P., Darien, N. Y.," that will be worth a great deal to me. I have been trying to find some way to make more manure. I like the plan given in "Ten Acres Enough." Droves of Maryland cattle are going northward by here at all seasons of the year, and I think could be bought in the fall and sold in the spring in better condition; but the difficulty is to get the feed. No one here will sell cornstalks. "P." says one acre will feed 11 head 200 days, if raised as he suggests, and cut. I thought that over a good deal, and did not believe it could be done. But I have a Telegraph fodder cutter, and the other day while cutting some feed for horses, I thought I would buy a few sheaves of corn fodder and measure it. I found a fair sized sheave to make three bushels cut. I am feeding to all my of cattle one sheaf each at a feed. According to "P." I could feed three times as many if I cut it. But I have plenty of feed for all of the cattle I have at that rate, feeding it whole; but if I live to see another winter, I must certainly improve on that. I could raise on a few acres of the marsh, all the fodder that would be required to winter a "down county" drove, if treated as "P." advises—I could easily do it. I have a one-horse sweep power that would cut it fast enough with my Telegraph; the same power drives my corn-sheller, wood-saw and cider mill. But, as "P." says, let us have the subject "thoroughly ventilated this winter," for it is a very important one. Cutting so much fodder is a good deal of trouble, and feeding it cut more, and I want to know if it will pay. T. Higgins.

McDonough, Del.

ONION CULTURE.

In your number of Jan. 26th, R. D. R. wants to know the modus operandi of raising onions. Every onion raiser prefers his own way. A good soil is desirable to begin with. Plow in the fall, and manure well with well rotted manure from the hog-pen; if not enough of that, draw on the barn-yard. Plow deep and let it lie in the furrow till spring, and about the 15th or 20th of April, drag and plow again. Sow, broadcast, 20 or 25 bushels of ashes per acre, and pulverise well. When well pulverised, roll it down and make your rows fourteen inches apart. By using a seed drill, 4 lbs. of seed will sow an acre. I prefer soaking my seed in water, milk warm, 24 hours, before using it. It will come up quicker. Dry it with plaster or in the sun. I sprout my seed in the winter to know if it is good. In fact, all seeds I buy I try before planting.

As soon as the onions show themselves in the row, begin to use the hoe, and keep using it until the tops cover the ground. Keep them clean ot weeds, and if too thick, thin them. If the land is rich they will bear to be thicker than on poor land.

After first and second hoeing, sow ashes or plaster broadcast, or drop it on the rows; it will retain the moisture, and facilitate their growth, and add to their size.

R. D. R. says he has got some quack grass on his lot; if so, I advise him to get rid of it before he puts onions on it, unless he wants to get rid of his finger nails, in weeding it out. $50 was the usual price paid for taking care of an acre before war times. Yield, from 600 to 1000 bushels per acre. Price here, from $1.75 to $2.50 per bushel. J. W.

West Springfield, Jan. 27, 1865.

Shellac Varnish---Crude Petroleum for all Kinds of Vermin.

MESSRS. EDITORS—I noticed in your issue of Feb. 2, that shellac varnish was recommended as a styptic for the wounds of pruned trees and vines. The present high price of alcohol renders it desirable that a new and cheaper compound should be used; therefore, if a person will substitute Fusel oil from the distilleries as a solvent of the shellac, it will be found to act as well, and only cost a tenth of alcohol varnish.

Allow me also to correct an erroneous impression in regard to the use of petroleum to kill insects on trees and bushes, which has been so highly recommended. Petroleum, in a mercantile view, is the refined rock oil, and it not only kills insects, but is a dead shot also on plants. The crude oil should be used, and that should be of the thinnest kind. The heavy crude oil named "Mecca," is too thick for the purpose, and is as bad as coal tar, for if too freely used it prevents the foliage and branches getting their quantum of fresh air. The thin quality does not affect the plant, and kills all kind of vermin. Also, if used on animals that have the mange, it will cure them, and they will regain their health after a few applications. Refined oil, or its first product, Naptha, is a sure *cure* for bed-bugs and like small vermin. Two years ago I lost a number of hens from a disease that I could not find any description of in any book, nor after many inquiries from fowl fanciers could I learn of a remedy. They appeared to be all taken with a film coming over their left eye, refused to eat, moped, the right eye closed, and they died, covered with vermin. I tried many remedies and found all useless, until I tried crude petroleum, and though I have had many sicken, even in the winter time, since, I have not lost one. My method is to give each patient once a day a mouthful of oil, and apply it under their wings, and open the feathers in several places on the back, and pour on some of the oil. A few applications and the patient is discharged cured. The oil spreads all over the body, kills the parasites, and by their running among the other fowls causes some to adhere to them and keeps them healthy. I think it would be a good plan to freely sprinkle it in the fowl-houses, and thus free them from lice. Having cured several animals of mange or dry scurvy by using the crude oil, I opine that scabby sheep could be restored to health by a few doses of an ounce each, at the same time making use of it as a local outward application. As brevity is desirable in a journal like yours, I have condensed many letters into one, and if any service to you, your are welcome to publish them.

Buffalo, N. Y. ALEX. J. SHELDON, *Chemist.*

USE OF SALT FOR MOLES.

A subscriber tells that salt at the rate of a bushel per acre will drive off moles. Moles and earth-worms work in land here that is so saturated with salt that nothing will grow on it. Let me warn your readers against too free use of salt on trees. I have read as much as a peck recommended to a single tree. My experience is that that amount will kill large oaks and hickories, on clay land. Last winter and spring, the Horticultural *Prophets* told us, through every paper and magazine, that the peach orchards of the south-west were all destroyed by the great freeze of January 1st, 1864. Like modern prophets in general, they said too much, groaned too loud, for the orchards were not destroyed. Many old straggly, sickly trees were got rid of, but well cultivated, thrifty trees, were little injured. The fruit buds were all killed, and for the first time in eighteen years, we had no peaches. Will not some of your correspondents give a list of apples and other fruits suited to this latitude, 37°, in the west. Not a *theoretical* list, but one that has been tested. Rawle's Janet is the best winter apple grown here, but is classed second rate by nurserymen.

Gallatin Co., Ill. JOSEPH J. CASTLES.

NIGHT-SOIL---"LIQUIDS AND SOLIDS."

In the last number of the COUNTRY GENTLEMAN, E. M. of Geneva, inquires how to prepare night-soil for fertilization—"liquids and solids."

A full answer to this would be, "mix them." The true way is to have privies built without any vault beneath. The "seat plank" should be hung on hinges, and stout buckets placed as receptacles. Into these buckets the solid excrements fall, and into them too should all the chamber vessels of the family be emptied. By pursuing this plan, when the buckets are nearly full, about one-fourth will be "solid" and three-fourths "liquid," and giving forth little if any other smell than that of ammonia. When the bucket is lifted out the contents should be thoroughly stirred, and the whole becomes a rich liquid manure. *It is one of the very best fertilizers for fruit trees that can be applied.* It may be scattered on the surface of the soil around trees, or what is better, small conical heaps of barnyard manure, or road scrapings, or muck, may be made ready under the trees to receive this rich liquid addition. In this latitude I prefer making these conical heaps in the fall, and have the same saturated with the "liquid manure" two or three times during the fall and winter, and then in the spring level the heaps down by scattering it over the entire surface. Where varieties of apples are cultivated that incline to be great bearers, the orchard ought to be well manured as often as every second or third year. It is folly to expect large and continued returns from fruit trees *without they are fed.* I believe the use of this "liquid manure" has a great tendency to clear an orchard from insects.

Six Smith's Cider apple trees in my orchard, netted me last season sixty dollars. Most orchards in my neighborhood, and around Cincinnati, did poorly, but mine never did better. I attribute my success very much to the "feeding" which my trees got.

What an "uncivilized" procedure it is to dig vaults under privies, in which may be accumulated year after year this most offensive and health-destroying substance. It is the fruitful source of yellow and typhoid fevers, and in cities it so saturates the soil beneath us that the plague and pestilence must some day burst forth, demanding the just penalty for this criminal infraction of the laws of health. When properly applied the substance referred to is the richest and most welcome food for plants; but it is a virulent poison to all animal life. If our entire country would adopt the plan above suggested, during the next half century, as many lives would be saved, and as much increase would be given to our national wealth as would make up for the havoc on life and property which this great rebellion war has occasioned. B. F. S.

Latonia Springs, Ky., Feb. 7, 1865.

BEE-HOUSES AND BEE-HIVES.

In reply to the questions of Mr. F. Manter, *in the* Country Gentleman *of Jan.* 5, p. 16.

My experience for the last twenty years warrants me in saying that bee-houses, as a general thing, are worse than useless, making a good rendezvous for spiders, ants, mice, and moth millers, besides the great cost that is often bestowed upon them. In the summer they are too warm, and in the winter there is scarcely any warmth to them. To those who are in favor of bee-houses, and don't mind expense, I would suggest the following plan:

1st. Have it high enough to accommodate two shelves, say about seven or eight feet, by six feet in width, and as long as desired—have it composed of two walls and a dead air space between. It should be lathed and plastered, and made as tight as a good dwelling-house, with a double floor.

2d. It should face to the southeast, with a drop door six inches wide, made double, in range with each shelf, the whole length of the building.

3d. There should be a good cellar underneath, eight feet deep, with heavy stone and mortar walls, well pointed, with a floor that can be removed during winter; this will give the bees rather a uniform temperature when shut up tight.

Another great trouble with all bee-houses where the hives are packed in closely together on a shelf, is that the young queens, when they emerge from the hive the first time to pair with the drones on the wing, are very liable to enter the wrong hive on their return, and get destroyed. Other serious troubles are frequently encountered, in consequence of the hives being so near together. Should robber bees gain possession of one of the hives, the whole of them may suffer before it can be broke up. With foul-brood or moth millers, the same trouble would be experienced. If a hive is of double thickness, or composed of two walls, with a dead air space between (as it should be,) the shade of a tree would be preferable to any bee-house in the world, especially through the summer season.

The Best Bee-House for Winter, that I have ever seen, is a *dark dry* cellar. If the bees are put into it properly, they will come out nearly as strong in the spring as they were when first put in; there will be no loss of bees, only a few, say perhaps a gill, that will actually die of old age; the consumption of honey much less than in any other locality, and a low even temperature that is so much needed during their confinement.

The Proper Way to put Bees in the Cellar.—If in the old style, turn them bottom side up. If in the Langstroth or Kidder hive, only remove the cap and boxes. The heat of the swarm, (if a good one,) will drive all the dampness out of the hive, and the combs will remain just as white as they were in the fall. If the cellar does not freeze, the bees will not suffer with the cold; should the swarm be a small one, a newspaper spread lightly over the hive would be sufficient.

If the hives were placed in the cellar in the same position that they occupied out of doors, the consequence would be, the combs would become black and mouldy, and the confined breath of the bees would create a carbonic acid gas that would disease and destroy the bees by thousands.

Mr. M. states that a friend kept bees in a small *well-house* for twenty years, and they have done well, but did not swarm; but does not say whether there was any surplus honey taken from them or not.

I do not consider that my bees do well unless I receive from fifty to seventy-five pounds of surplus from each hive, besides young swarms; and if they should *not* swarm, much more than that. In northern Vermont in 1863, bees did extraordinarily well; many bee-keepers realized one hundred pounds and over of surplus honey per swarm; and in several instances where they kept the Italian bees, a still larger amount was realized. The season was a favorable one, and the hive used was an improved movable comb hive.

Disadvantages of Bees occupying a Room instead of a Hive.—1. They will seldom if ever swarm—2. It is very inconvenient taking surplus honey from it, should they perchance have it to spare—3. They will only increase about fast enough to keep up their numbers, caused by old age and accident—4. The bees after a time find it impossible to cover the combs, which will give the *ants, spiders*, mice and moth-millers a chance, which will generally end the scene in less than twenty years.

Feeding Bees Rye Meal or Water.—This process is governed somewhat by the style of hive. If bees are to be fed in the L. or K. hive, I would suggest that if the bees have had their flight one day, generally some day in March is the time to set them at liberty; immediately on setting them back into the cellar or room, the rye meal can be given them in a common tea saucer, with a bit of old comb by the side of it, to assist them in getting to it, or a small handful on a piece of comb, placed upon the top of the comb frames. *Water* can be given them in a similar way, with the cap and boxes still off, with a newspaper spread over the hive to prevent the bees from flying to the light, should there be one carried near them. Bees can be fed the same in the old style of hive if it is inverted.

Robbing of Bees—How prevented.—If the stock is a good one, and a small entrance given to the bees, say one half inch by one quarter inch, it is very seldom that bees will ever get robbed, especially if they have a fertile queen.

After a swarm of bees fairly get to robbing, it is not an easy task to prevent it, unless they are captured and imprisoned. They then can be destroyed, or kept imprisoned for nine days and made to serve us the same as other colonies, providing they are foreign bees. If our own bees get to robbing each other, then there is no other alternative but to scent the besieged hive with some essential oils, and contract the entrance to both hives. K. P. Kidder, Practical Apiculturist.

Burlington, Vermont.

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THE HOUSEWIFE'S HAND-BOOK—XXV.

BY A HOUSE-KEEPER.

Ice Cream.—A very cheap luxury and easily made. Take what quantity of cream (sweet and thick) you wish. Sweeten and flavor to your fancy. Have some broken ice and salt placed around your freezer in a keg or tub that comes up as high at least as the cream in the freezer. Turn the freezer until the cream is in a mushy mass; then with a long wooden paddle beat it until it rises up as light as the frothed white of an egg. A whip churn does not answer quite as well. When satisfied with its lightness, proceed to freeze it until stiff. Then mould it or wrap it up to keep it from thawing until wanted. If you have not pure cream, make a custard of fresh milk and whites of eggs, and use one-third with cream.

Cream seasoned and whipped to a froth, is nice with fresh fruit, or filled up in glasses in which there is a spoonful of jelly, or a maccaroon soaked in wine.

Custard.—Allow four eggs to each pint of fresh milk. Reserve part of the whites to froth and lay on top. Beat the eggs smooth, stir them in the milk—sweeten with best loaf-sugar. Set a bucket with the mixture in a pot of boiling water. Stir until done and remove from the fire instantly. The same mixture may be baked.

Apples or Quinces, pealed and cored, with the hole made by coring filled with jelly or brown sugar, and baked with a little wine and sugar around, are very nice; with a custard poured over and baked, they are termed a bird's nest.

Blanc Mange.—Dissolve an ounce and a half of gelatine in a pint of sweet cream. Sweeten, flavor and boil it. Put a little in a cup on some ice and salt, and if it will mould, it is done. Color or use white.

Calf Foot Jelly.—Having reduced some feet to jelly by boiling, scrape off the fat from the cake when cold. Melt it in a kettle, and before it is warm enough to cook them, stir in the broken whites of some eggs. Boil and skim well; strain through a flannel bag; return to the kettle with the addition of some brandy, sugar and delicate spices, as much as makes it agreeable to you. Boil until it will readily congeal on ice; strain it through a flannel until perfectly clear; mould it, or if for glasses, heap it in them in broken pieces. You may flavor calf foot jelly with any fruit you choose. Gelatine is dissolved in water and prepared by the same process. One ounce to one quart of water in winter; one and a half ounces in summer.

Charlotte Russe.—Make one pint of rich custard, when cold stir in an ounce of isinglass dissolved in a half pint of water and reduced to a stiff jelly; sweeten with best sugar; mix a glass of wine, the juice of a couple of lemons, and a pint of frothed cream together; stir them into the custard when cool. Mould in blanc mange moulds, or cut out some nice shaped sponge cakes into shells, and pour the mixture in.

Coffee.—Pick, wash and drain the coffee; roast it of a nice brown color; when you can mash it with your fingers it is done. Many people stir in an ounce of butter to a pound of coffee. It is best fresh roasted, but as that is too troublesome in real business families, it is usually prepared once a week, and immediately put in close canisters. One pound of coffee to a gallon of water is the prescribed quantity, but we think used by few. Mix the ground coffee with the white of an egg; when the water boils stir it in and boil hard for a few minutes; then set it where it will boil slowly for ten minutes. Coffee should be made just before wanted for use. Before pouring it into the urn, pour a cupful back and forth, until it seems clear. You may use a strip of ising-glass instead of the white of an egg, or you may, when you want the coffee, after it cools, glaze it, using the whites of two eggs to each pound of coffee.

Tea.—Use a China tea-pot; scald it well. Allow two cups of tea to a person at least, a teaspoonful of tea to each person. Twenty minutes before tea is wanted, pour on a little boiling water. When ready to be sent to the table, fill up with boiling water. Few nerves can stand tea as strong as a heaping spoonful of first rate tea would make a cup. Find out how strong your family like it, and make it accordingly.

Chocolate.—Scrape up one pound of best chocolate and dissolve it in a teacupful of boiling water; then mix with six teacupfuls of fresh milk; let it come to a boil. It is then ready for the table.

If you will add eight well beaten eggs to the above preparation, with sugar, and bake it in cups, you will have a nice chocolate pudding.

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AYRSHIRE COWS AS MILKERS.

In the Transactions for 1864, of the Essex, Massachusetts, Agricultural Society—one of the oldest and most useful bodies of the kind in the country—we find a valuable statement, which is condensed below, for the COUNTRY GENTLEMAN. The Reports of the Committees of this Society are always full and interesting, and often include much information from the direct experience of their authors—in this respect affording an example worthy of imitation. Thus Mr. JOS. S. HOWE, chairman of the Committee on the Dairy, takes occasion in his report to comment upon the lack of general information, as to what constitutes a good or tolerable annual yield of milk from milch cows, and then proceeds incidentally to relate the result of a trial conducted by himself a year or two ago. Its object was "to ascertain how much an average cow would give, on fair keeping, and how much difference there was between such a cow and the best." Three cows were therefore selected, which had been kept upon the place several seasons, and whose qualities were known to be such as to throw some light upon the point specified:

No. 1 was a cow that had always been considered a FAIR milker—a "native"—calved April 12th, and again the 22d of the next March.

No. 2 was also a "native," but was one of the BEST—calved April 25th, and again the 19th of the next April.

No. 3 was a *grade* AYRSHIRE—calved June 10th, and the 21st of the next June.

The milk was measured carefully every Wednesday, and the amount reckoned an average for the week—with the following results:

Yield of Milk in Quarts of the Three Cows for One Year.

	Amount for the Month.			Amount per Day.		
	No. 1.	No. 2.	No. 3.	No. 1.	No. 2.	No. 3.
April, ...	171	47	....	9	9½	....
May, ...	314	345	. ..	10⅛	11⅛	....
June, ...	308	406	345	19¼	13½	18
July, ...	290	320	427	9⅓	10⅓	13 4-5
August, ...	273	305	395	8 5-6	9 5-6	12 5-6
September, .	231	298	334	7⅔	10	11 1-6
October, ...	194	279	357	6¼	9	11½
November, .	171	259	296	5⅔	8⅔	9⅞
December, .	104	247	310	3⅓	8	10
January,....	46	250	326	2	8	10½
February, ..	....	190	295	....	6 5-6	10½
March, ...	....	54	270	....	3	8⅔
April,.......	....	...	169	....	....	5⅔
May,........	. ..	....	41	. ..	....	3

No. 1. Total yield of Milk, 2,102 quarts—sold for $52.47
2. do. do. 3,000 do. do. 79.71
3. do. do. 5,265 do. do. 97.57

Av. amount per day during whole time—No. 1, 6.2 quarts.
do. do. 2, 8.5 do.
do. do. 3, 9.4 do.

Mr. HOWE adds: "The keeping in each case was precisely alike, and consisted of a few roots or shorts, with as much hay and other fodder as they would eat;—during the summer months, nothing but good pasture. It was thought at the time that No. 1 barely paid the cost of keeping and a fair interest on her market value. Taking this for granted, then No. 3 paid a profit over cost of keeping sufficient to buy a good cow at that time.

"Dr. Loomis, in a paper published in the Patent Office Report of 1861, estimates the average annual amount of milk produced over a large extent of territory, at only 1,800 quarts per cow. If this is correct, or even if 2,100 quarts per year be the average, then it follows that many farmers are making milk at little or no profit. It also follows that, with better stock, the same expense in keeping will yield a larger return than in almost any other branch of agriculture. Doubtless it is practically impossible for all to obtain extra cows; but when farmers are convinced that they cannot afford to keep a medium cow, the demand for better stock will increase, and the supply will increase with the demand."

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"Confusion to the man," as the carpenter said, "who first invented working by candle-light." "Ay, or by daylight either," rejoined his apprentice.

The New-York State Agricultural Society.

Winter Meeting at Albany.

The Society met at the Assembly Chamber at noon February 8th, the President, JAMES O. SHELDON, Esq., of Ontario, in the chair. The first business in order was the reading of the Treasurer's Report, of which the following is an abstract:

Report of LUTHER H. TUCKER, *Treasurer of the New-York State Agricultural Society.*

RECEIPTS.

Balance on hand from last account,	$3,871.25
Annual memberships received,	111.00
Life memberships,	378.00
State appropriation,	875.00
State appropriation for salary Dr. Fitch, Entomologist of Society,	1,000.00
Sale of Society's tent,	375.00
Rochester local subscription	1,200.00
Rochester State Fair Receipts,	15,487.94
Premium Deposit Fund, presented by Hon. E. Cornell	150.00
Interest on Flax Fund Deposit,	109.22
Interest on Society's investments,	253.21
Total,	$23,810.62

PAYMENTS.

Premiums, &c., annual meeting,	$366.00
Premiums, &c., on account previous years,	736.41
Library and Museum expenses,	548.31
Salaries and travelling expenses, including Dr. Fitch, Entomologist,	5,164.43
Incidental expenses,	265.62
Postage account,	274.21
Printing and stationery,	656.09
Expenses on Flax Fund account,	43.45
Premiums Rochester State Fair,	3,639.59
Expenses Rochester State Fair,	4,574.53
Total payments,	$16,268.50
United States Securities on hand,	6,936.21
Premium Deposit Fund,	150.00
Cash on hand,	455.78
Total,	$23,810.62
Total cash and securities as above stated,	$7,541.93

To which was appended the usual certificate of the Committee of Audit, and on motion of Hon. A. B. CONGER the Report as read was accepted and approved.

The Annual Report of the Executive Committee was next read by the Corresponding Secretary, Col. B. P. JOHNSON. After reviewing the encouraging features in the agricultural history of the past year,—the growing demand for improved implements and machinery is referred to. The extension of interest in wool-growing has resulted in the organization of a Society of the Sheep-breeders of the State. Our Dairy interests have been unprecedentedly prosperous. The Flax Committee of the Society report that while there has been no invention or discovery as yet brought forward worthy of the award of the Legislative appropriation now in the Society's hands, there have been marked improvements effected, which indicate a much nearer approach to the object in view than heretofore attained. Owing to delay in printing the Society's Transactions, copies have not been supplied as promised to those engaged in collecting Agricultural Statistics, and the law requires revision. The holding of a Trial of Implements during the coming year is recommended, and its importance set forth. The loss which the Society, in common with the farmers of the State, has had to deplore during the past year, in the death of two of its former Presidents, is referred to in fitting terms. Returns from County and Town Associations have been generally of a favorable and encouraging character. Such associations as that of the cheese-makers of the State are doing much good. The Steam plow imported at too late a season to be put into operation last autumn, will probably be tested at the West the coming Spring. The Agricultural discussions at the last State Fair excited the usual interest; subjects should hereafter be selected and published at an earlier day, and farmers induced, if possible, to take part still more freely in their discussion. The agricultural surveys of counties should be continued as may be expedient. The liberal offer of Hon. E. CORNELL to endow an Agricultural College at Ithaca with $300,000, provided the State would appropriate to the same object one-half the income hereafter arising from the National land grant, has now been increased to the munificent tender of *Half a Million Dollars,* should the Legislature conclude to devote the whole income of the land grant to this purpose—a donation which may be accepted, it is sincerely hoped, and at length bring about the result so long and so anxiously sought—the establishment of an Institution, creditable to the State, upon a basis securing its permanent prosperity and usefulness. Improvements have been effected during the past year in the Society's Library, Museum and Lecture Room, adding much to their convenience. There is reason to think that a Winter Exhibition of Fat Stock may hereafter be successfully established—the yards and buildings at West Albany being easily adaptable for the purpose and accessible to visitors. The progress of our Horticulture has continued, and the cultivation of the Grape is rapidly growing in importance in several parts of the State. The Treasurer's Report shows a satisfactory condition of the Finances of the Society.

Mr. T. S. FAXTON, of Utica, moved the acceptance and approval of the Report, after which the usual nominating committee was appointed, on motion of Mr. Conger, consisting of three members from each Judicial District. After retiring for consultation this committee presented the following nominations:

President—Hon. T. C. PETERS, Genesee.

Vice-Presidents—1. Thos. H. Faile, Jr., New-York; 2. Samuel Thorne, Dutchess; 3. J. Stanton Gould, Columbia; 4. T. L. Harison, St. Lawrence; 5. John Butterfield, Oneida; 6. William Ely, Broome; 7. D. D. T. Moore, Monroe; 8. Horace S. Huntley, Cattaraugus.

Corresponding Secretary—Benjamin P. Johnson, Albany.

Recording Secretary—Erastus Corning, Jr., Albany.

Treasurer—Luther H. Tucker, Albany.

Executive Committee—Elon Comstock, New-York; George H. Brown, Dutchess; Clark I. Hayes, Otsego; H. T. E. Foster, Seneca; Levi Blakeslee, Oneida.

The Committee also recommended to the Board, the selection of the City of UTICA as the place for holding the next Annual Fair. The Report was accepted, and the officers named, on ballot duly elected.

After a recess, the Society convened at 7 P. M. Dr. Asa Fitch delivered an interesting lecture upon his Entomological investigations since the last Winter Meeting. On the invitation of the President, Dr. J. A. WARDER of Ohio, a member of the U. S. Commission on Flax Cotton, made some interesting and instructive remarks upon this important subject, and was followed by J. STANTON GOULD of Hudson, in continuation of the same question. Votes of thanks were passed to the several speakers. Mr. GEDDES, of Onondaga, briefly and appropriately reviewed the life and agricultural services of the late WM. FULLER of that County, a former Vice-President. A committee was appointed to inspect a new Beater Hay Press in operation.

The Exhibition at the Society's Rooms.

The following is a list of the premiums awarded:

FIELD CROPS.

Best crop of oats, Miss Amanda Newton, East Bloomfield, Ontario county. 10⅛ acres, crop 695 bushels.

Value of crop	$556 00	
Cost of cultivation	108 00	
		$448 00

Value of crop per acre, $55.57.

Steuben County Ag. Society, for taking Ag. Statistics in 1864	30 00

ESSAY.

History of Grape Culture in Steuben county, Hon. G. Denniston, Prattsburgh, Steuben Co	25 00

GRAINS AND SEEDS.

One bushel of each variety exhibited.

Winter wheat—1st Prem., Ai Pine, Pittstown; white, 63 lbs	3 00
Rye—1st Premium, Jos. Cary, Albany, 57 lbs	3 00
2d Premium. Ai Pine, 57 lbs	2 00
Spring barley—1st Prem., H. Wier, Johnsonville, 46 lbs.	3 00
Scotch oats—1st Premium, H. Wier, 40 lbs	3 00
Yellow corn—1st Premium, Ai Pine, 60 lbs	3 00
2nd do., D. W. C. DeForest, De Friestville, 56 lbs	2 00
White corn—1st Premium, H. Weir, 59 lbs	3 00
Beans—1st Premium, L. L. French, Page's Corners, Herkimer County, 63 lbs	3 00
2d do., Ai Pine, Marrowfat	2 00
Flax seed—1st Premium, Ai Pine, 52 lbs	3 00
2d do., H Weir, 55 lbs	2 00
Buckwheat—1st Premium, H. Wier, 48 lbs	3 00
2nd do., Ai Pine, 48 lbs	2 00
Millet seed—To H. Wier, a discretionary premium for half bushel	Trans.
D. W. Bulkely, Williamstown, Mass., Belgian potatoes	Trans.
D. S. Heffron, Utica, three varieties seedling potatoes	Trans.

SAMUEL CARY,
OSCAR GRANGER, Committee.

BUTTER.

1st Premium, three tubs made at any time, L. L. French, Page's Corners, Herkimer County	15 00
1st Premium, three tubs made in June, Aug. and Nov., L. L. French	15 00
2nd do., Mrs. H. Weir, Johnsonville, Rens	10 00
3d do., Ai Pine, Pittstown	Trans.
1st Premium, winter butter, Mrs. H. Weir	5 00

CHEESE.

1st Premium, three cheese, E. F. Carter, Evansville, Jefferson County	15 00

The cheese exhibited by Mr. Carter were of excellent quality, good flavor and uniform character, and are well deserving the premium.

Discretionary—The three cheese exhibited by Messrs. Cary & Sons, manufactured by S. Thompson, South Otselic, were very superior, rich in color, and pure flavor. Your Committee would recommend a discretionary premium.........Diploma.

H. T. E. FOSTER,
GEORGE H. BROWN,
ISAAC H. COCKS.

FRUIT.

Apples—Best 20 varieties, Wm. H. Slingerland, Normanskill, Albany County	4 00
Best 15 do., Wm. H. Rogers, Pultneyville, Wayne County	3 00
Best 30 do., Wm. H. Rogers	4 00
Best dish, Newtown pippin, Mrs. H. Weir	S. S. Med.

Discretionary—Mr. John Harold, of Hempstead, Queens County, exhibited a variety of wine made from the pure juice of the Norton Virginia Seedling Grape, which the Committee consider a delicious wine and free from that disagreeable acid which most native wines have. The Committee award Tucker's Rural Affairs.

D. A. Bulkely, of Williamstown, Mass., exhibited a pleasant Blackberry cordial. Committee award.......Trans.

HERMAN WENDELL,
ASA FITCH,
D. R. FLOYD JONES.

Discretionary.—Domestic Manufactures.—Mrs. Henry Weir, of Johnsonville, Rens. Co., exhibited a great variety of Domestic Manufactures made by herself, nearly all during the past year, consisting of plain and embroidered bed spreads and blankets, patch work quilts, flannels, ginghams, rag carpets, drilling, linens, &c., amounting to twenty-two articles, highly creditable to the lady;

For which the Executive Committee award a special premium of.........$25 00

Mrs. Weir also exhibited 6 beautiful Bouquets of Everlasting Flowers of a variety of brilliant colors. Committee award Tucker's Rural Affairs.

Dennis Grogan, of Albany, exhibited samples of Upland Cotton grown in this city.........Trans.

The Seed-Planter exhibited by Irish & Ensign is to be made by R. & M. Harder, the well-known Threshing Machine manufacturers, Cobleskill. On examination, this machine struck us very favorably from its simplicity and the apparent perfection with which it promises to do its work. Its construction embraces several points of originality in such implements, and the certificates shown from those who have had it in use are strongly in its favor. The Sleigh-Brake shown by Jas. Thompson, Ballston Spa, must be an effective and most important attachment for winter use in a hilly region.

With quite a number of the officers and members of the Society, we attended on Thursday afternoon a trial in operation of the new Beater Hay-press made by Messrs. L. & P. K. Dederick of this city. It has not been sufficiently tested as yet to perfect all the various parts of the machinery, and it was tried by hands inexperienced in such work. While it seemed evident that some of its parts require strengthening, the work done proved its capacity to meet the end designed, and at a large saving, as compared with the Beater press heretofore exhibited, in the actual expenditure of power required. It is worked by one horse instead of two, with a sweep power of only ten feet radius, and only requires seven revolutions to compress the bale—the toggle-joint apparatus effecting this end, being of immense power. The report of the committee having the trial in charge was of a very favorable nature.

Discussions.

During the day a meeting was held at the Society's Lecture-room, at which one of the topics discussed at Rochester during the Fair was brought up for farther consideration, viz., "Is it more profitable for dairymen to keep up their stock by raising than by purchasing their cows?"

Several gentlemen participated in the debate, among whom were Col. S. D. Harris, editor of the Ohio Farmer, Hon. George Geddes, of Onondaga, Hon. T. C. Peters of Genesee, Mr. Collins of Otsego, Mr. Lewis of Herkimer, Mr. Norris of Genesee, Solon Robinson of New-York. The Chairman also made some remarks, when the following resolution, offered by Mr. Geddes, was unanimously adopted by the meeting:

Resolved, That it is expedient and profitable for Dairymen of the State of New-York, to preserve the policy, as far as possible, of obtaining new herds by rearing their own stock.

Resolved, That heifers should be allowed to calve at two years of age.

Evening Meeting.

On the meeting of the Society in the evening, and after reading the reports of committees, embracing the awards above given, the address of the retiring President, JAS. O. SHELDON, Esq., was delivered—in which, in a most appropriate manner, the various topics of interest in the Society's history during the year were adverted to, concluding, among other points, with some very practical suggestions, urging the extension of root culture upon the notice of our farmers, and glancing at the changes which seem not unlikely to be brought about in our agriculture from the extended market for the hay crop, both for city use and for export, opened by the invention of the Beater presses—rendering this crop as compact and cheap for transportation to long distances as any other product of the soil. Mr. SHELDON's remarks will shortly appear in pamphlet form, when we shall hope to present some extracts to our readers; they were listened to with much interest, and concluded by the introduction of

The President elect, Hon. Theodore C. Peters, of Genesee county, who, in a few brief and happy remarks, thanked the Society for the honor conferred upon him, and promised them his best efforts for the success of the Society in the coming year.

Lay your hand upon your mouth when the rod of deserved chastisement is upon your back.

THE BEST MUTTON SHEEP.

Having noticed several inquiries in your very valuable journal, asking for information relative to the best breed of sheep for the purpose of producing mutton, I am induced to give my views and experience on the subject, with the hope that others may do the same. The production of mutton has already become a very important branch of agricultural industry, and is yearly becoming more so. It is important for those commencing the business to start right. This is sometimes a rather difficult matter; at least such was my experience. After all the information I could get upon the subject, I selected the Cotswolds as likely to prove the most remunerative and satisfactory. After the experience of a number of years, I am fully satisfied of the correctness of my decision at that time. However valuable the Merinos and Saxons may be, where wool is the object—and for this purpose they stand unrivalled—I presume no one would advocate breeding them for their mutton. This admitted, the contest would be narrowed down to the Long-Wooled and Middle-Wooled breeds. Under the head of Long-Wooled are included the Cotswolds, Leicesters, Oxfordshires, &c. Under that of Middle-Wooled, the South-Downs. Of the former I will take the Cotswolds as the type, as they are the most extensively disseminated and best known. The South-Downs, it must be admitted by all impartial judges, are a very valuable breed of sheep, and I willingly accord them full credit for all their good properties, such as hardiness, symmetry, good quality of mutton, (but not quite enough of it,) and fair quality of wool. But with all these admitted good qualities, I think the Cotswolds are to be preferred. Well conducted and careful experiments made in England some years since, with a number of the leading breeds of sheep—the different lots being carefully weighed, as well as all the food consumed by them—pretty conclusively proved that the Cotswolds made more weight for the amount of food consumed, than any other breed. This does not look as if they were such voracious feeders, as has been intimated from certain quarters. It is true a large Cotswold will eat more than a small South-Down: but then he will make more wool and mutton. Perhaps when the pasturage is poor, the South-Down might have the advantage of the Cotswold, because eight legs and two mouths could run over more ground, and pick up more grass, than four legs and one mouth; but, on a good pasture, I would prefer the four legs, because they tramp and injure less than the eight. Stock feeders are well aware that heavy animals will command a higher price per lb. in the market than light ones, provided they are equally fat; this alone gives the larger breeds a decided advantage over the smaller ones. An objection that has been urged against the Cotswolds by some over-fastidious persons, is the quality of their meat; but this is a most groundless complaint. I most certainly doubt the ability of any one to distinguish the different breeds of sheep when served upon the table. Perhaps those who think they can, might even find difficulty in distinguishing them in the pasturage! For my own part, I must say that I have never eaten nicer mutton than well-bred and well-fed Cotswold. In this connection I must give an instance that was recently related to me, to show how far persons may sometimes be carried by prejudice. A butcher of the neighborhood, on going his round, mentioned to one of his customers, that he had brought him some very fine Cotswold lamb. On his next call, the butcher was informed that the lamb was not good, and that he must bring no more of it. The following week, he called the despised Cotswold, South-Down—which the connoisseur pronounced *very fine*, and requested always to be served with such lamb! There is a good deal of this kind of nonsense about quality. Much was formerly said about the superior quality of the Devons, but they have been almost entirely superseded by the heavy Short-Horns, notwithstanding the cry that was at one time raised against them of the coarseness of their flesh, of which nothing now is heard, and every one seems quite satisfied with a piece of good Durham beef. So I think it will be with sheep; the imaginary qualities of the South-Down, will not be able to compete with the superior weight of the Cotswolds.

Edgewood, near Westchester, Pa. C. E. H.

Culture and Product of Four Acres of Sorgho.

MESSRS. L. TUCKER & SON—I wish to give the readers of the COUNTRY GENTLEMAN my experience in raising and manufacturing four acres of Chinese sugar cane—not that I expect to impart information to those that have experimented with it for several years, but to call out articles on their experience, that myself and others may learn of them.

I selected four acres of low, black bottom land that had been in corn for several years in succession, previous, without any manure; plowed it up about the tenth of May; harrowed and planted in drills, with a drill, on the 18th of May—three acres four feet apart, and one acre three feet four inches apart—planted the seed dry, and in five days it began to come up, and in ten days was all up. There were about three times the number of plants necessary. As soon as it was large enough to see the rows plainly, it was worked through with a cultivator and hoed; in ten days afterward, it received a similar working, and in addition, was thinned out, and afterward two plowings. About the 20th of August the one acre planted three feet four inches, was flat down—that that was planted four feet, all stood up, except some spots that were left too thick.

Blading, Cutting, Boiling, &c.—It was principally bladed standing in the field, by hand. I tried a four-pronged fork corn cutter, as recommended by some, but could not make them answer the purpose. The next procees was to cut down and throw on the ground in armfulls, and then, with the corn cutter, chop about two feet of the top off, which was the most expeditious way I could find. It was loaded on to a four ox cart, and hauled to the mill about sixty rods off, and dumped. It was ground by a one horse iron mill. The juice run by a spout into a tub along side of the pan. I used a common sheet iron pan thirty inches wide and ten feet long, set on a common brick arch or flue. There was about one hundred and twenty gallons of juice run into the pan at once, which was boiled down as speedily as possible.

Commenced to work the cane on the 22d September. Very little of the seed had began to turn black.

It produced fourteen gallons of thick syrup to the pan, and gradually increased until it produced twenty gallons, which was the 6th of October, at which time the seed was about one-fourth of it black. From that time it gradually decreased to fourteen gallons to the pan, which was 1st November, at the time of finishing. Whether the decrease was caused by slight frosts about that time, or that was the proper stage to produce the greatest yield, I am not able to say. The cane produced about the same quantity of juice at the time of finishing that it did at the beginning. My experience, in former years, was that as cane ripened, the quantity of juice was less, but much richer.

It took one cord of four-foot wood to forty gallons of syrup, which I think too much. I used a common crane, hung to a post with ordinary gate hinges, to lift the pan on and off the arch, which proved to be very convenient for the purpose. One person can do it very easily.

What I wish to suggest by this article is, to inquire of those who have experience and know, which is the best mode of planting and cultivating, and the best mode of taking the blades off. Also if there is any way of constructing a flue for an ordinary sheet iron pan, so as to take less fuel, and whether there is any mode of planting, cultivating, or evaporating, that sugar can be produced from the sorgho or (any species of the African cane) in sufficient quantities to pay? Let us hear from cane raisers and manufacturers.

The account of the four acres stands thus:

Dr.	
Plowing and harrowing,	$10.00
Planting and cultivating,	13.25
Barrels for syrup,	27.50
Interest on cost of mill and fixtures $100, at 6 per cent.,	6.00
Wear and tear on same,	20.00
Cutting, hauling, and boiling,	181.00
18 cords of wood,	18.00
Interest and tax on land,	16.00
	$291.75
Cr.	
By 720 gallons syrup, 75 cents,	$560.00
	291 75
Net profit on four acres,	$248.25

The above item of wood seems very low, but I procured the wood of a neighbor for cutting and hauling; it was hauled in three lengths, and was cut at the pan, which labor was included in $181 item. The syrup is put very low; it is worth one dollar per gallon here. The above is not a very large showing, but considering the high prices of labor and large amount of labor to blade by hand, it is probably a good average of the profits of manufacturing syrup on a small scale. I intend next season to experiment by grinding without blading. The waste would probably be less than the expense of blading.

Sugar Grove, O., Dec. 31, 1864. R. L. SHARP.

BEST WAY TO REAR CALVES.

EDS. CO. GENT.—Agreeable to promise I will give you my mode of feeding and raising calves. Perhaps the numerous readers of the COUNTRY GENTLEMAN will say the subject is already exhausted, and that they know all about the small matter of raising calves. Perhaps they do, but as there is a great diversity of opinion on the subject, I hope you will pardon me for what little I may say. Economy in these times of high taxes, is quite an important item to every farmer, and as this principle can be applied with profit to a great many points in our profession, perhaps by an interchange of views we may be able to apply it in some measure to the subject of rearing calves.

Some claim that a good calf cannot be raised unless they draw the milk themselves from the cow; and others that they must certainly be fed new milk for two or three months. Now let us investigate this subject on the principles of economy, and see if it is profitable. Suppose the calf takes one-half of the milk of a good cow for 90 days, what would the calf cost at that age with butter at fifty cts. per pound? Only the moderate little sum of about $22.50. Rather a costly calf. But without any farther comments on the different modes of treatment, I will proceed to give my method, and in doing so I shall have to go into detail somewhat.

In the first place, I let the calf remain with the cow from two to three days; then put him away by himself, when the process of learning him to drink commences, and a little patience saves a great amount of trouble. The calf is usually tied with a rope, or put in stanchions, at feeding time, and in learning it to drink by putting the hand on the nose and pressing the fore finger on the end near his mouth, he will reach out his tongue, get a taste of the milk, and learn very readily to drink from the pail. I sometimes feed new milk for a day or two; then let the milk stand twelve hours, take off the cream, warm the milk, and feed to the calf for a week or so; then let it stand twenty-four hours, being careful not to feed too much so as to loosen the bowels; and after the calf gets to be four to six weeks old, it will eat almost anything you give him.

I prefer to keep them up in the stable or small yard, until they are two or three months old, and give them what hay they will eat, as this treatment keeps the bowels more regular than to let them run to grass. I find a small quantity of oil cake meal a very good addition for a month or two at first. A little dry clay I think very good for them to lap occasionally where they are kept confined.

I have seen very fine calves raised in this way, and have raised a great many good ones myself. I will give you the dressed weight of one eleven months old, that I raised a few years ago. It was fed all summer with skimmed milk with the addition of a little corn meal for the last three months. His dressed weight was 500 lbs., with 25 lbs. rough tallow. I do not pretend that a calf raised on skimmed milk will look as fine as those raised on new milk, but I claim that you can raise very good ones, and far more economically, and especially in the dairy districts where we have a large quantity of milk to feed.

One very essential point, in raising calves in this way, is to feed each calf by itself, so that each one shall have his regular mess, as some will drink a great deal faster than others.

I have always noticed where a lot of calves were fed all together in a long trough, there would be some very poor ones, and that is owing to some drinking faster than others. Now to those that are skeptical in regard to raising calves on skimmed milk, I say try it, and see if, on the principles of economy, you cannot make it pay. If you wish to fatten, add shorts or meal, and I have no doubt you will succeed to your entire satisfaction. JOHN SHATTUCK.

Norwich, Chenango Co., N. Y.

HEALTH OF PLANTS.

The whole economy of life and of nature is full of illustrations of the law laid down in the parable of the Sower: "For whosoever hath, to him shall be given, and he shall have more abundance; but whosoever hath not, from him shall be taken away even that he hath." The farmer sees this rule at work probably more frequently and more completely than any one else; he is able to discover that it is a physical as well as a moral law, and as applicable to inanimate things as it is to man. For instance, observe how wealth produces wealth, attracts it on all sides; and notice how poverty infects all around it as with a malaria. In the desert, as soon as a spring bursts forth (one source of wealth,) it creates a vegetation around it (another source.) This vegetation fertilizes the soil; fertility increases the vegetation and attracts animal nature, &c., &c. Look at the process again in the reverse: a man loses a crop, say, and his resources are so far forth straightened. Unless he puts forth an energy more than proportioned to meet this loss, everything thenceforth has a downward tendency with him. He robs his land of labor or manure, it yields hims inferior returns, and the entire ratio of deterioration is a geometric one. The state of the currency gives us another instance: it takes two dollars to buy the worth of one dollar—a result originally brought about by the effort to supply a deficiency of money by an over-issue, but which effort defeats itself, since in proportion as the deterioration increases, so will the deficiency augment. We see this in the case of the South, where the original attempt to buy one dollar's worth with the promise of two, made the promise of four necessary; then the promise of eight was needed, and so on up to fifty.

—But my reason for calling your attention to this law, was its vast importance in respect to general productiveness, in which regard it has a practical bearing upon all the sources of wealth. JOHN JOHNSTON knows the rule, for instance; he knows that in fattening stock he gets his money back in a geometric proportion. Every extra pound he puts on a beef pays him in a four-fold way—it pays him in the actual extra weight—it pays him in the extra quality of the meat thus produced—it pays him in the reputation his stock thus secure, a reputation which brings money —it pays him in the extra manure—the addition to the fertility of his soil—the increase of means for feeding thus secured—the increased profit giving him a chance continually to enlarge his operations, &c., &c.

So with regard to vegetable nature, and especially the *health of plants.* The effect of cultivation and of fertilizing observes this same geometric ratio. Faithful tillage pays not only by securing the existence of plants and thus obtaining their yield for us, but by rendering that existence healthy, it gives the plant strength to *help itself, to combat* disease, and so, to *help the farmer.* Why does John Johnston's wheat suffer less from the winter thaw than the wheat of his neighbors? Because he does justice to it, preserves its health, and so, gives it a strength of *its own* to resist the influences of severe weather, and to repay him four-fold. In one sense, the vegetable nature has just as great a feeling of gratitude as man possesses. It is certain to repay you for all the care you bestow upon it, and to repay you *out of all proportion to the cost of that care.* In the appreciation of that one fact, I take it, lies the whole secret of getting rich by farming.

I have been led to make these desultory remarks by an observation made by M. Ferris, an eminent French entomologist. He has been employed during fifteen years in tracing the habits of the different insects which prey upon the cluster pine (pinaster,) with which the Landes of France have been planted. He says " he cannot admit that these insects are the primary cause of the death of the trees which they attack, and that during fifteen years for which he, without intermission, studied their habits in one of the best wooded countries in France, he had observed a sufficiency of facts to justify him in expressing his opinion that *insects in general* (not including those which attach themselves solely to the foliage,) *do not attack those trees which are in good health, but only address themselves to those whose health and functions have suffered from some cause or other.*"

"Lignivorous insects are only to be dreaded by sickly trees. They are like some mosses and lichens which only attach themselves to enfeebled trees, while healthy well-grown trees preserve a smooth bark, and repulse these vegetable parasites." * SELVA.

Randallstown, Md.

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Make the Soil Rich at the Surface.

In the Co. GENT. of Feb. 2—p. p. 80, 81, are interesting articles on two subjects, which are fundamentally important to good farming, and they illustrate the slowness with which real and saving improvements gain favor, even among the farmers of our wide-awake times, and under the very beams of the light diffused by the agricultural press.

How did the idea ever become so general that manure wastes injuriously by evaporation? Even scientific men have long helped to frighten farmers into false, laborious, difficult, unpleasant, wasteful processes of supposed saving, but real waste. If excremental manures were continually giving off their valuable properties to the air instead of the earth, what kind of an atmosphere should we have! How filthy would be the dew, the rain, and the sweet fresh air. And if the soil did not attract and receive these properties from the water, which really conveys them away (little more than an etherial odor going off to the air) what would be the condition of our springs and wells? They would be thick with pollution. It seems strange that all our people have not disabused themselves of these early prejudices, as Mr. Johnston and Mr. Garnett have done.

In the culture of trees and vines, to which I have devoted most attention, I have long noticed it to be much healthier for the plants, to strew manure on the surface, in autumn, over the feeding fibres, which stretch upwards from the main roots, and ramify near the surface. If manure is buried with the roots of trees, it is actually poisonous; and if applied in the spring, in any way, it does not affect growth until the season is advanced, when a strong fall growth is apt to be induced, which does not ripen well, and the soft, rank shoots are injured by early frosts, while yet full of watery sap, or drying winds parch them; the immature bark having no varnish to protect the shoot from desiccation.

The second subject relates to that desirable, but long-a-coming attachment to the plow, an attached subsoiler. Who makes them? Where are they to be had? Where is Mr. Pierce of Homer, with his attachment, of which I have heard great praise. Their usefulness is, in part, founded on the same principle as is alluded to above, that of keeping the manurial elements, vegetable matter, sod, near the surface, within reach of the decomposing and corrective influences of the air, instead of burying it deeply. This attachment secures this condition, while it breaks up the soil thoroughly. W. G. W.

Tyrone, Pa.

AVERAGE PRODUCT OF 337 COWS.

The following interesting report of the doings of the Trenton Union Ag. Society, (Oneida Co., N. Y.,) was furnished by the Secretary Storrs Barrows, Esq., to the Utica Herald:

At the Annual meeting of the Trenton Union Agricultural Society, a year ago, a resolution was taken requesting the members to keep an account of the yield of their respective cows for the year 1864, and report the same to the secretary in a written form.

Nearly all of the towns embraced in the Society have more or less been represented, and handed in the following reports.

We have condensed the minutes by omitting entirely the amount of feed, (other than hay and grass,) whether it was extra, double extra, bountiful, sparingly, or not at all. The reports state that the above mentioned *courses*, were severally practiced by different individuals. In many localities the drouth was severely felt, causing a great falling off in the yield of milk.

In examining the report the reader will have no difficulty in determining which of the above courses is the one to be practiced for profit.

Names.	*Residence.*	*No. Cows.*	*Per Cow.*
Miss Leah Litter,	South Trenton,	3	$106.42
Storrs Barrows,	do.	10	102.35
Dudley W. Rhodes,	do.	6	97.24
Farmer,	do.	—	68.00
C. & C. M. Gouge,	do.	13	73.73
Wm. Conley	do.	4	88.00
Geo. W. Wheeler,	Trenton,	52	118.93
Mrs. DeCastro,	do.	5	152.22
V. Lawton,	do.	1	120.00
Luther Egert,	do.	2	72.20
Chester Wolcott,	do.	10	81.72
Chas. A. Willard,	Holland Patent,	7	113.71
Farmer,	do.	—	91.13
Farmer,	Steuben,	21	90.13
Farmer,	Remsen,	42	89.01
M. A. Blue,	Deerfield,	38	73.00
Farmer	do.	30	75.75
Farmer	Stittsville,	—	69.99
Farmer,	Newport,	10	71.03
Farmer,	Floyd,	—	81.01
Gardiner Hinkley,	Russia,	52	104.50
Asa B. Downer,	do.	18	95.06
Manassa Flint,	Marcy,	13	78.16

Judge Graves of Herkimer, who is a member of this Society, gave a statement of a cow that he once owned (an ox in size, perfectly healthy, and an enormous feeder,) that gave in the last 20 days of June 83½ pounds of milk per day, and made in seven days days 27¾ pounds of beautiful butter.

Mrs. De Castro's report I will copy *verbatim* and at the same time remark: In the first place, probably, she has as good cows as can be produced in Oneida county; next, they are cared for by one of the most systematic men to be found in the management of cows; bountiful feeding, regular milking, &c. To sum up the whole, there is nothing left undone, in care and attention, to produce the greatest amount of milk.

MRS. DE CASTRO'S REPORT OF FIVE COWS, IN 1864.

Cash received from the factory,	$657.62
Butter, 160 pounds at 50 cents,	80.00
Milk,	16.00
Calf skins and rennets,	7.50
	$761.12

STORRS BARROWS, Secretary,

South Trenton, February, 1865.

Quantity of Hay per Head of Cattle.

Messrs. L. Tucker & Son—In reference to the consumption of hay by cattle, I add my mite to the discussion. On the 3d of January last, I drew a stack of timothy, blue or June grass, and white clover hay. The top of the stack, 500 lbs., was put in racks in the cattle yard, and 7990 lbs. into the loft of the cow-stable. This hay was given to the cattle for the first time at 4 P. M. on the 3d, and the last of it was fed at 7 A. M. on the 14th of January. That in the racks was gone by the 10th of January. The stock was 22 cows and heifers, and 11 yearlings. The estimated weight of the stock was 26,000 lbs. The 33 head consumed per day, 772 lbs., equal to 23 4-10th lbs. each. Each 100 lbs. of live weight consumed 32 65-100th lbs. during the 11 days, equal to 2.96 lbs. per day. Two of the cows were in milk, and were fed two quarts of grain each, in addition. The cows average in weight 1000 lbs.; consequently they consumed nearly 30 lbs. of hay each per day. The heifers are two and three old, and weigh 800 lbs. each. They consumed 23 68-100th lbs. each per day. The yearlings 600 lbs. each, and consumed 17 76-100th lbs. each per day. The hay was fed up clean; it was well cured, and the cattle are in good order. W. D.

Ashland Farm, Jefferson Co., N. Y.

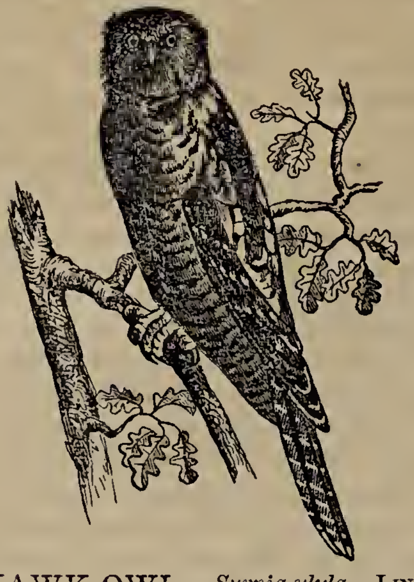
Corn Smut Poisonous to Cattle.

Eds. Co. Gent.—Please find inclosed a slip cut from the Am. Farmer, about smut on corn. I consider it a poisonous fungus somewhat similar to ergot in rye, which also is found in various other grasses, and to the presence of which, in part, I attribute the fact that cattle will not thrive some seasons as at others, even with the greatest abundance of hay. T. S. GOLD.

West Cornwall, Conn.

Is Corn Smut Poisonous to Cattle?—Mr. E. Wood, of Lester, Iowa, says the Prairie Farmer, lost three oxen, three cows and three calves last winter, he supposed from eating the snouts of cornstalks. He raised one and a half acres of King Philip corn, which was very smutty, "not only many ears with smut upon them, but occasionally bunches of clear smut—all left on the stalks, bound and stacked." When cold weather came on the cattle were fed plenteously on these stalks. On the morning of the third day he found one dead; the eight died within two days. They were supplied with water daily. "The first symptoms were weakness; would reel in walking. If lying down, would lie apparently easy for two hours; then begin to twitch or jerk the shoulders, breathe hard, roll on the side occasionally and groan. For one or two hours before dying, would lie continually on the side, with legs stretched out, and manifest extreme pain; would die within six or eight hours after showing the first symptoms of the disease." All masses of smut grown on cornstalks, or any part of the ears of this grain, should be carefully removed, so as not to taint the fodder or seed of the plant consumed by man or beast.—*American Farmer, Sept.*, 1861.

Death of Wm. F. Ketchum.—The inventor of the Ketchum Reaping and Mowing Machine, W. F. Ketchum, died of apoplexy in Buffalo, on the 24th ult



HAWK OWL---*Surnia ulula.* LINN.

Our engraving at the head of this article, represents the bird we propose to describe—the Hawk Owl. Before commencing, however, it will perhaps be as well to inform the reader how very difficult a subject we have to treat of.

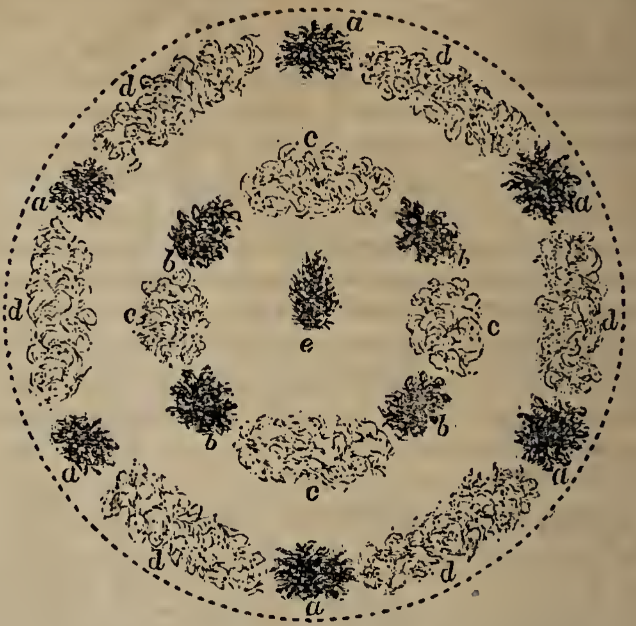
The Hawk Owl being an inhabitant of the far north, has never been seen by the writer alive. This was the case with AUDUBON, WILSON, NUTTALL, and a host of others. Thus you perceive we are cut off from obtaining any information from that point. These, and many other equally good reasons, have made it not within our power to give a full account of the habits of this bird.

The Hawk Owl inhabits the arctic regions, and has been noticed as far north as any man has yet penetrated. In the winter season, however, it migrates more to the south. Its southern limit may be placed at the St. Lawrence River. In the vicinity of Hudson's Bay it is to be found in considerable numbers. It also inhabits Denmark, Sweden and Siberia. We believe that the European bird is identical with the American.

Philadelphia. J. P. NORRIS.

BEDDING PLANTS AND ANNUALS.

The finest effects are obtained from two methods of arrangement—1st. The promiscuous—2d. The combination. Both plans require some practical knowledge of plants, and how to grow them. We must know their habits, height of flower stock, color, and period of blooming. Every cottage garden is an example of the promiscuous style of planting, not one in fifty giving evidence of more than the outline rudiments of horticultural knowledge. The combination bed is used for want of a better term, being equally applicable to the other arrangement. But the difference is this: In the promiscuous bed, single specimens are the rule, and we have evergreens and deciduous shrubs in juxtaposition with herbaceous plants, bulbs and annuals, all growing together in a kind of amicable confusion. The combination bed is planted according to a preconceived plan, which admits of almost endless variety. By judicious arrangement, all that is good in the modern idea of "bedding plants," may be exemplified in this system. All the massing of color, consistent with good taste, can be realized, with additional effects that cannot fail to please the eye. And $10 worth of these plants will go as far as $20 in filling up the beds.



EXPLANATION—*a.* Daphne Cneorum—*b.* Salvia patens—*c.* Geraniums and Gladiolus—*d.* Lobelia speciosa Paxtonii—*e*-Golden Arborvitæ.

Two bulbs of Lilium lancifolum album, behind the center of the Lobelia, fronting the Salvia, has a fine effect. If exposed to the sun, with no shade whatever, the Lobelia will require to be watered, (not superficially,) twice a week in parching weather.

An instance or two will suffice to explain the modus operandi. We shall suppose a circular bed with sufficient space for two distinct lines of plants and one central prominent object, in this case, a golden arbor vitæ. The first, or outside row, must be dwarf. At regular intervals, six nice plants of daphne cneorum would be set out, either in the fall or spring, eighteen inches from the edge. This charming evergreen requires to be pegged down twice a year, when, instead of an unsightly straggling usurper of space, it becomes a dense mass of refreshing green, in May covered with deliciously scented pink blossoms, which are sparingly renewed in the fall. Between each plant of daphne, young plants of lobelia speciosa paxtonii are to be set out in May, covering the whole blank space—say about one root to every five inches. Presently these will close up, and flower throughout the season—color, vivid blue and white. (The lobelia is easily raised by sowing the seed in pots, end of March—placing a square of glass above the soil to retain humidity, and administering water in very minute doses. When the seed leaves appear, remove the glass.) If it is desired, a different plant may be used between each of the daphnes, and so have a variety of colour. But these must all be of the same height. For instance, lobelia; verbena, purple; variegated balm; verbena, white; northern Drummondii, (annual); verbena, crimson; or each of the six spaces may be occupied by the best of all annuals, phlox Drummondii—a separate color in each.

The second, or inner line, is to be struck half way between the first line of plants and the centre specimen—in this instance a golden arbor vitæ of some size, or a well shaped tree box. On this line are to be set out four plants of salvia patens, (the most beautiful blue and prolific bloomer we have during the fall months.) The first of these being planted half way between two of the daphnes, and the other three at equal distances. If properly set out, these salvias will stand as the corners of a square, with four blank spaces between—each of these spaces to be occupied by bedding geraniums. These may be all of the same, or each different. The best effect is to be had from a variety, viz: Paul l'Abbey, the very finest cerise red: Christine, by far the best pink, ever blooming; Kingsbury Pet, the best salmon; Princess Alice, or Gen. Pelessier, bright scarlet. The salvias must be carefully trained, and tied to thin but reliable sticks, as their habit of growth is erratic. It is a good spot on which to locate one dozen of gladiolus—three bulbs, half way between each salvia, that is to say, in rear of the geraniums. The long bare stems of the gladiolus penetrate through and above the geraniums, the foliage of which supplies what is lacking on that gorgeous cape bulb.

Extend the capacity of the bed, and we have then space for an intermediate circle, arranged on the same principle as the others, or better still, alternates, say double white feverfew and antirrhinums, both of which bloom freely all the season, with judicious cutting back as the earlier blooms pass off.

The above is one of the many outlines for the effective planting of beds on a lawn. The same principle is applicable to borders, with a backing of evergreen and deciduous shrubs. It must be borne in mind that a large number of herbaceous plants can be appropriately used to produce bedding effects, and these, instead of being killed by the first frost, are perennial, increasing the stock every season. There is no necessity, therefore, to lay in fresh supplies of bedding stock every spring. An ample list of these I propose to furnish in a succeeding article, with the addition of some tropical plants that can be raised cheaply from seed, and planted out either in beds, or on the lawn, with splendid effects.

A sketch of the bed is given herewith, as above described. SCARBROENSIS.

The Factory System of Cheese Making.

Our friend Mr. HARRIS, of the Genesee Farmer, thinks that the Factory System of Cheese Making can only continue profitable while the premium on gold sustains the present price of the article. He says:

> The average price of cheese sold by the different factories the past season, must be taken at 20 cents per pound. With gold at $2.25, which may be taken as the average of the past year, this would give us not quite 9 cents per pound for cheese in specie. The extra 11 cents per pound now obtained is purely fictitious. Take this away and where would be our "cheese factories?"

In our last "Foreign Notices" we quoted a statement from the London Mark Lane Express, to the effect that the actual cost of production for cheese in England, is rather above than below 5d. or 6d. a pound. Taking this as 10 or 12 cents of our money, we think we might fairly assume that our cheese, *if of a quality such as to command the full price of good English cheese,* would be sure to sell in that market *at least* for the price above named. But allowing for freight and profits of dealers, and taking 9 cents as its probable home value,—if the cheese made in Factories is sure to obtain this price, while that made in the ordinary way will not average perhaps more than 6 to 8 cents, we confess we can see no reason why the one cent per pound paid the factory for making, will not then be as good an investment as it is now. The average prics of cheese in New-York for twelve years past, according to the table appended to the last report of the Secretary of the Treasury, have been—taking the two months of February and August:—

	Feb.		*Aug.*			*Feb.*		*Aug.*	
1851, ...	6	@7	4@6		1857, ...	11	—	5	9
1852, ...	6	7	6	—	1858, ...	6	7	4	8
1853, ...	8	9	8	—	1859, ...	8	10	6	8
1854, ...	10	12	7	9	1860, ...	9	11	7	10
1855, ...	9	10	6	9	1861, ...	9	10	5	7
1856, ...	9	10	6	9	1862, ...	5	7	4	8

During these years the price has been more frequently below than above 9 cts.; and it has been a price, we think it fair to assume, as a general rule, created by *the home market*—not by the demand for export. Thus, in 1859, and again in 1861, it touched 2 cts. a pound in the month of July; in 1858 3 cts. in August; in 1862, 4 cts. in the same month; and at some time during the summers of the other 12 years, it went down as low as 6 cts., except in 1853, when the lowest price was 8 cents., and in 1860, when the lowest price was 9 cts. Such are the fluctuations to which the home market is subject; and if, as we do not think it too much to hope, the factory made cheese will command a uniform price, based upon the actual cost of production abroad, of at least 9 cts. per lb.—or even of 8 cts.—the difference in its favor over that sold in the home market, when unsustained by a foreign demand, would vary all the way from one to six cents per lb. during the season of production.

The question, as we have before said, appears to us to hinge mainly upon the point of QUALITY; and the great danger to the factory system arises from the chance that in the demand for managers, inexperienced and ill-qualified persons will assume that post, under whose control the product, instead of being constantly brought more nearly to the foreign standard, may be allowed to run back to something like the old average of home-made cheese. As to the cost of carrying the milk to the factory, our contemporary overlooks the almost universal arrangement now adopted, by which the same team carries the milk of all the farmers in a certain beat; but admitting his figures to be correct, we believe the labor and cost of carrying the milk to be less than that of making the cheese in the house, and as above stated, that with the exception of a few of the most careful and skillful dairymen—taking the average of the dairy farmers—the larger price received for the cheese made at the factory will more than make up for the charge involved. One cent a pound covers this charge, in ordinary times—the proposition to increase it arises merely from the temporary increase in the actual expenditure for labor, &c.

RECIPE FOR SALTING BEEF.

The following recipe may be a little late for some families this year, but nevertheless "will keep." I had it from an old housekeeper, and having proved it for two years, know it to be good. By this rule beef will keep through the summer without any farther attention than the first salting. To 100 pounds beef use 4 quarts rock salt made fine, 4 ounces of saltpetre also pulverized, and 4 pounds brown sugar. These ingredients are to be well mixed together before using. Scatter some of the mixture over the bottom of the barrel, then a layer of beef, then the mixture as before, and so on till all the beef is laid down. Put rather more salt on the top layer than on the others; pack close and keep in a cool place. Those who try this recipe will not need another.

Bennington, Vt. E. C.

HOW TO HANG AN AXE.

A simple rule for even a simple thing, will often save much time. A tool that is used so much as an axe, should be properly adjusted, as every blow will tell of the ease or hardship of the hanging. The rule is very simple. It was given me by two persons, each of whom is much accustomed to edge tools. Put the helve loosely into the axe at first, so that it can be moved to the proper position; now let the centre of the edge of the blade of the axe and the but of the helve (or part taken hold of,) be brought each down to a horizontal line, which may be done by simply placing them on the floor, and the axe is ready for wedging. E. C.

THE CULTIVATOR.

ALBANY, N. Y., MARCH, 1865.

☞ It may be well to remind the many friends who have kindly sent lists of subscribers for this paper the current year, that additions to these lists may at any time be made at club rates. There are some localities in which owing to the removal of those who had undertaken the agency in former years, the usual clubs have not as yet been formed. We desire to say that club subscriptions are only received when *paid strictly in advance*, and that those desirous of taking advantage of the reduced rates offered to clubs will thus consult their interests by moving in the matter at an early day.

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Cheese Factory Statistics.—At the recent meeting of the State Cheese Manufacturers' Association in Utica, interesting and valuable statistics were presented from a considerable number of factories in different localities. The returns from twenty-five of these factories were complete on the four points embraced in the subjoined table, which we have been at some pains to prepare from the statements read before the meeting, in concise form, for the COUNTRY GENTLEMAN. These figures illustrate the extensive business now done in making cheese, on the factory system:

NAME OF FACTORY, AND COUNTY OF LOCATION.	Average No. of Cows.	Amt. of cured cheese made, in pounds.	Av. price per lb. in cents and fractions.	Av. lbs. milk required for 1 lb. cured cheese.
Holmesville Factory, Chenango,.	400	114,246	20.62	9.90
Miller's, Lewis,..................	580	183,111	22.77	9.54
Collins', Erie,.....	851	249,608	20.73	9.85
Hawleyton, Broome,.............	265	68,660	21.80	——
Coal Creek, Herkimer,...........	475	176,000	18.80	10.00
Stevens', Lewis, ...	750	207,121	21.60	10.16
Charleston, Montgomery,........	335	98,101	22.25	9.84
Nelson, Madison, ...	575	199,884	19.69	9.78
West Schuyler, Herkimer, ...	550	196,916	21.90	9.71
Springfield, Otsego,..............	300	137,866	21.29	9.97
Mile Strip, Madison,....	360	122,105	21.14	9.85
West Exeter, Otsego,...........	500	172,894	21.75	10.07
Brookfield, Madison, ...	200	64,999	24.25	8.31
Orwell, Oswego, ...	250	72,557	21.70	10.00
North Litchfield, Herkimer,.. ...	375	127,275	21.70	9.90
Deansville, Oneida,..	275	83,094	21.33	10.38
Deerfield and Marcy, Oneida, ...	1,032	295,115	20.07	10.26
Stanley's, Jefferson, ...	400	134.050	18.80	9.90
Scriba, Oswego, ...	400	100,744	20.00	9.35
East Berkshire, Franklin,........	500	101,539	24.00	10.00
Oneida Lake, Madison, ...	270	55.422	21.42	10.30
Ingraham & Hustis, Jefferson,...	600	142,518	23.09	9.95
Gilbert's, Oswego,..........	350	110,465	18.97	10.01
McLean, Tompkins, ...	937	302,084	22.50	9.60
Whitestown, Oneida, ...	600	204,025	22.70	10.05

Total number of cows reported,..............	12,130
Total pounds of cheese made.	3,720,399
Average lbs. of cheese for each cow, (nearly).....	308⅓
Average lbs. milk to 1 lb. cured cheese, for 24 factories,.........	9.86
The largest average number of lbs. of cheese for each cow, is that reported by the Springfield Center Factory, Otsego Co., ...	459 lbs.
The next largest, by the Coal Creek Factory, Herkimer Co.,.........................	370 lbs.
The smallest number lbs. milk, per lb. cured cheese, reported by Ellison's Brookfield Factory, Madison Co.,.........................	8.31
The next smallest, by Whittemore's Scriba Factory, Oswego Co., ...	9.35
Aggregate Sales of the 25 Factories, at an average of 21 cts. 4 mills per lb., .	$795,979.37
Average Sales of each Factory, 148,816 lbs.,.......	31,839.18

It will be observed that the weights of cheese made, as above given, are those of *cured cheese.* Five factories give the weight of the cheese when *green*, as well as when cured, and as this illustrates the shrinkage before marketing, we give the aggregate, as follows: These five factories manufactured 719,759 lbs., weighed in its green state, or 679,872 lbs., weighed when cured—a loss of 39,887 lbs., or about 5.54 lbs. in the hundred. But the shrinkage reported varies considerably in the five cases, perhaps from the different lengths of time elapsed before the cheese was sold—in one instance being about 5 per cent., in another a small fraction less than 5 per cent., in a third about 7 per cent., and in a fourth, a small fraction more than 7 per cent. The average sizes of the cheese made are given by nearly all the factories—the greater number running at about 100 lbs. each, and three at about 150 lbs.

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Department of Agriculture.—The "Monthly Report" of the Department, for January, is just received as we go to press. We have not had time for the examination of its contents, except to see that very few pages have any connection whatever with the operations of the Bureau. Mr. NEWTON announces that "the present report may be regarded as indicating the general character of the monthly reports for the present year." In other words, his zeal to keep himself before the public is such that he cannot be satisfied without endeavoring to establish what is neither more nor less than a *government agricultural paper.* When an effort was before made in the same direction, in common with the rest of the agricultural press, we warned Mr. NEWTON that he was quite overstepping the bounds of his official duty, or the proprieties of his position. Temporarily the effort was abandoned.

It is perfectly in place perhaps that bulletins of what the Department is doing, and of the statistical returns obtained, should be issued at the necessary intervals; but here we have a regular plan laid down, of "a leading article of strictly agricultural character," such that "the farmer may immediately apply the information communicated in the practical operations of the farm"—also "shorter ones on topics more general, but still connected with the interests of agriculture." By what authority does Mr. Newton assume to do any thing of the kind? The idea that the government should undertake to furnish the public with a monthly magazine of this sort, is wholly inadmissible, and the self-conceit manifested in Mr. Newton's preliminary remarks is becoming insufferably ridiculous. If Mr. NEWTON's vanity leads him to suppose that the agricultural press regards his proposed "Monthly Report" as a formidable rival to their own interests, he may at once disabuse his mind of any such notion. But, aside from any other ground of objection, it is enough to say that our subscribers *pay for the papers they receive;* it is wholly unjust that the Department should furnish its favored friends with a periodical *free of charge*, particularly while our taxes for other purposes are as heavy as they are at present.

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Classification of Merinos.—Among several letters on this subject we take the following remarks from a private note from a Vermont subscriber: "Your very interesting article on the classification of sheep for premiums is exciting much attention. It is a very important subject. You must offer premiums or have no Show, and such an arrangement as will bring the greatest number for exhibition would perhaps be most expedient, though injustice may sometimes be done, and that more for want of a good selection of judges than from an improper classification. If sheep breeders were influenced by the same spirit as is shown by many others, in exhibiting their stock, your State Fair might become the great place for the showing and sale of good animals."

Connecticut.—The Sheffield Scientific School of Yale College, to which was appropriated the public land grant for the promotion of Education in Agriculture and the Mechanic Arts, for the State of Connecticut, has now organized its course of instruction under the following professors:

S. W. Johnson, Professor of Chemistry.
W. H. Brewer, Professor of Agriculture.
Daniel C. Eaton, Professor of Botany.
Addison E. Verrill, Professor of Zoology.

Of the new instructors, Prof. Brewer was a pupil of the lamented Prof. Norton, and for the last four years has been chief assistant in the Geological Survey of California. He previously occupied the chair of Natural Science in Washington College, Pennsylvania. His chair in the Sheffield School is appropriately called the "Norton Professorship." Prof. Eaton is a pupil of Prof. Gray of Cambridge, and is a zealous and successful teacher of his favorite science. Prof. Verrill has been a student with Prof. Agassiz for six years, and has devoted great attention to agricultural zoology—the origin, races, and breeding of domestic animals, and birds and insects useful or injurious to agriculture.

We are pleased to learn that probably within a short period a magnificent edifice will be erected and become the property of the College, and that in it will speedily be gathered a series of collections in all departments of Natural History worthy of this ancient Institution. The new courses of Instruction in Agriculture will be open to students at the beginning of the next academic year, Sept. 13, 1865. Full announcement will be shortly given to the public.

New-Jersey — Geological Survey. — The State Geologist of New-Jersey, Prof. Geo. H. Cook of New-Brunswick, has been quietly engaged with his assistants for several years, upon a complete Geological Survey of the State—a State perhaps destined eventually to become the garden of the Union, possessing as it does markets of insatiable extent directly at its doors, with wonderful supplies of fertilizing material accessible, both from external resources, and along its shores and beneath its soil. In his report for 1864, Prof. C. embraces several points directly of agricultural interest, including analyses of marls from several beds. The marl region of New-Jersey had been previously shown to comprise "a belt of country from five to fifteen miles wide, reaching from Raritan Bay and the Atlantic Ocean, on the northeast, to the Delaware river on the southwest," constituting a regular geological formation, in which rich beds of fertilizing material called *marl* or *green sand*, in three distinct layers, each from fifteen to thirty feet deep, extend continuously across the State, parallel to each other and to the whole formation. These conclusions are farther verified in the investigations of 1864, and the marl is used in constantly increasing quantities in all parts of the State to which it can be cheaply transported, and is "rapidly aiding to bring the most unpromising soils to a high degree of fertility." Its principal fertilizing element is "phosphoric acid, probably combined with lime," while other constituents, although in a much smaller degree, add to its value. The Gaskill marl beds, which we visited two or three years ago, during 1864 shipped by railroad 22,000 tons to various points.

Prof. Cook estimates that there are in New-Jersey more than a million acres of good land still unoccupied and almost unproductive, perhaps one hundred thousand acres of wild and unreclaimed meadow, and a vast extent (nearly a million of acres more) of tide marshes that might be brought into agricultural use. The limestones of the State afford a vast supply for the farmer's purposes, but the past year's survey shows that the best of them are not yet generally known or used.

Obituary.—The Senior editor of the Maine Farmer, Dr. Ezekiel Holmes, died at his residence at Winthrop, Feb. 9th, after a brief illness, in the 64th year of his age. Since January, 1833, with the exception of intervals while engaged in other duty, he had had charge of the Agricultural Department of that paper, which he conducted with great good sense, giving it the honorable rank it has always held, and rendering it a most serviceable instrument in the cause of improved farming. Aside from his influential position as an agricultural writer, he had occupied other prominent public positions. The last number of our contemporary says:

"After his removal to Winthrop in 1832, he filled the professorship of natural science in Waterville College, several years; in 1835 he was appointed to make a survey of the public lands of Maine and Massachusetts, under a joint resolution of the Legislatures of the two States, a duty which was faithfully and ably performed by him; he was for five years successively, elected a representative to the Legislature from the town of Winthrop, and has also served several terms in the State Senate from this district; in 1852-53, he was the Liberty party candidate for Governor of the State; he was the first Secretary of the Board of Agriculture, and the first Secretary of the State Agricultural Society, which latter position he continued to occupy at the time of his decease. The latest official service rendered by Dr. Holmes was the Scientific Survey of the State, which was prosecuted under his direction in the year 1861-62, and its results given in Mr. Goodale's Annual Reports of those years."

In the House of Representatives of the State, the following resolutions were moved, in his memory:

Resolved, That in the recent decease of Hon. Ezekiel Holmes, the State of Maine has lost one of her most useful citizens.

Resolved, That in testimony of our respect for the memory of the deceased, these resolutions be entered on the journal of this House.

"Practically acquainted with the minutest details of farm operations, and always a diligent student of the principles which underlie them, he also possessed a remarkable facility and clearness of expression, which enabled him successfully to bring his views and convictions upon all subjects distinctly to the comprehension of the common mind. That his editorial labors have been appreciated, is abundantly demonstrated by the support which has always been so generously accorded to the paper of which he was the founder, by the people of Maine."

A Market for Corn Husks.—Mr. D. H. Craig, Agent of the Associated Press, New-York, invites "proposals from every town, county and State in the United States for supplying clean, sound and well-dried husks, as the same are stripped from the ripe corn; the husks to be baled in even hundreds of pounds and delivered at railroad stations." They are to be used in the manufacture of printing paper, under recent discoveries of which the publishers of the leading daily papers have secured control.

Connecticut.—The following have been elected officers of the State Agricultural Society for 1865:—

President—E. H. Hyde of Stafford.
Vice Presidents—Robbins Battell of Norfolk; H. L. Stewart of Norwich.
Directors—J. J. Webb, New-Haven Co.; C. M. Pond, Hartford Co.; P. M. Angur, Middlesex Co.; Jedediah Spalding, New London Co.; G. C. Hitchcock, Litchfield Co.; R. B. Chamberlain, Tolland Co.; B. F. Sumner, Windham Co.; Thomas A. Mead, Fairfield Co.
Corresponding Secretary—T. S. Gold, West Cornwall.
Recording Secretary—Burdett Loomis, Windsor Locks.
Treasurer -F A. Brown, Hartford.
Chemist—Prof. S. W. Johnson, New-Haven.

Iowa.—The Annual Meeting of the Iowa State Agricultural Society was held at Des Moines, Jan. 11th. Hon. P. Melendy of Cedar Falls, was elected President; Dr. J. M. Shaffer of Fairfield, was re-elected as Secretary, and Edwin Smith, Esq., of Davenport, was re-elected as Treasurer. It was resolved that the next Fair be held at Burlington.

A Box of Apples.—We have received from A. L. Benedict of Ashley, Ohio, a collection of twenty-one varieties of the apple for inspection and comparison with those grown in New-York. Ashley is in central Ohio, a little north of Columbus, with nearly the same latitude as Philadelphia. Among the more common varieties, the only difference observed is generally a larger size and an earlier ripening in these specimens as compared with those grown in this State. The *Swaar* is large, fair and handsome, but somewhat diluted in flavor; *Esopus Spitzenburgh* is softer and riper than here; the same remark will apply to the *Yellow Bellflower;* the *Willow Twig*, *Kaighn's Spitzenburgh*, *Westfield Seeknofurther*, *Black Gilliflower*, and *Roman Stem*, are quite similar to specimens of the same varieties grown here. The *Ortley* is fair and handsome, while ours are usually scabby; the specimens marked *American Golden Russet* are not Bullock's Pippin, but the *Golden Russet* known as such in Western New-York—a variety with somewhat flexuous shoots and speckled bark. The *White Rambo* accords in appearance and character with Elliot's description. The *Whitmore Sweeting* is a rather large, roundish oblong or ovate conical fruit, light yellow, flesh rather coarse, very sweet, juicy and "good." *Sweet Vandervere* differs from Charles Downing's description under this name, all the specimens being rather oblate than oblong—the cavity and the basin being rather shallow, and the form regular and not angular; the flesh is fine, crisp, pleasant, spicy, not quite sweet, "good," or "very good." The *Bethlehemite* accords nearly with Elliot's description, and is a pleasant, agreeable sort. The *Red Winter Sweet* appears to be undescribed in books. It is rather small, oblate in form, of a uniformly very dark red color; flesh rather tough, (like the Carthouse,) of a sweet moderate flavor. It is described as productive and a long keeper, and we should think might be valuable for the winter feeding of domestic animals. The *May* (of Myers,) is medium sized, roundish, slightly conical, light green and brown; flesh rather dry, nearly sweet, rather deficient in flavor. It is stated to be a very long keeper, whence its name *May*. It will probably never become popular, as long keepers should have a decided rather than a deficient flavor,—although a good-looking fruit, somewhat of the appearance of the Newtown Pippin or Peck's Pleasant.* The *Red Janett* is a large oblong or ovate fruit of a fine deep red color, and rather handsome appearance, but we think it rather too coarse to be of much value.

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Subsoil Attachment to the Common Plow.—A correspondent of the Co. Gent. at Amherst, Mass., sets forth the merits of a subsoil attachment to the common plow, as follows:—"No intelligent farmer need to be told of the advantage of stirring the soil deep. The double Michigan plow does this, and answers a good purpose, where the soil is as deep as in the State from which it takes its name. But in New-England, with a light soil, it does not answer to bury the turf and top soil to much depth with the subsoil, unless you add manure in proportion. A subsoil plow to follow the common one, will probably pay the extra cost, where large farmers have plenty of hands and teams—but few are thus provided. The subsoil attachment is put upon the ordinary plow at a small cost. Having gauged the plow to the desired depth, say six inches on turf land for corn or sowed crops, then the attachment pulverizes the subsoil any depth, according to the capacity of the team, from six to twelve inches, leaving all below the sod well stirred. The draft is not heavy—a good pair of horses, or a yoke of oxen and a horse, will do the work easy. It seems to me to be the greatest improvement yet made upon the common mode of plowing. And I am of the opinion that every acre plowed in this manner, will pay the cost of the attachment."

Cheese Statistics.—The Utica Herald gives the quantity of cheese shipped from Rome, Oneida Co., during the past season, legitimately belonging to the county of Oneida, and which does not include the cheese coming down the Rome and Watertown railroad and re-shipped at Rome. The number of pounds is stated as follows:

By Railroad,	2,665,804	pounds.
Canal,	536,818	do.
Total,	3,202,622	do.

This, at 20 cents per pound, amounts to $640,524.40. The Journal and Courier, at Little Falls, furnishes a statement made by Henry W. Priest, the efficient Railroad Freight Agent at that place, of the butter and cheese shipped from Herkimer county during the year 1864. It is as follows:

CHEESE.

	No. pounds.	Cost.	Amount.
Frankfort,	902,598	20 cents.	$180,519.60
Ilion,	4,010,491	20 do.	802,098.20
Herkimer,	4,519,230	20 do.	903,846.00
Little Falls,	5,958,102	20 do.	1,101,620.40
Canal,	1,377,573	20 do.	275,514.60
Total,	16,767,994		$3,353,538.80

BUTTER.

	No. pounds.	Cost.	Amount.
Frankfort,	15,584	45 cents.	$7,012.80
Ilion,	159,217	45 do.	71,647.65
Herkimer,	141,441	45 do.	63,548.45
Little Falls,	163,215	45 do.	73,446.75
Canal,	13,226	45 do.	5,950.70
Total,	492,683		$221,606.35

The estimate of cost is probably not far out of the way, as in cheese a very large number of pounds was sold for 25 cents and upwards. The Herald says:

"We presume there are more than 300,000 pounds of cheese still back in farmers' hands, being the late ends of dairies, and not sufficiently cured for shipment, which would make the product of cheese in Herkimer county for the past year, at least 17,000,000 of pounds. Little Falls is, and has been for years, one of the largest cheese markets in the United States. All the noted cheese dealers meet here twice a week, and, as competition often runs high, it is regarded a tolerably good guide as to the real feeling in the trade."

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Sale of Sheep in Vermont.—What is spoken of as "the largest sale of sheep ever made in Rutland Co.," took place at Brandon, Dec. 12th, and is communicated by a correspondent of the Co. Gent. as follows: N. T. Sprague, Jr., of Brandon, sold to Merrill Bingham of West Cornwall, Vt., twelve thorough-bred *Infantadoes*, (Spanish Merinos,) all yearlings, as follows:

10 yearling ewes at $300 each,	$3,000
1 yearling buck,	1,300
1 yearling buck,	2,500
	$6,800

"The purchaser of these sheep is widely known as a breeder and dealer in thorough-bred sheep, and well acquainted with their value, and the sale shows that Mr. Sprague has been very successful in his judicious selections and breeding. Rutland county thus furnishes to Addison county a yearling ram, (the last above named,) that can hardly be exceeded. He sheared last spring at the rate of one pound of wool to less than four pounds of carcass."

◆

White Willow for Hedges.—I notice an inquiry from a subscriber in the Co. Gent. of the 15th Dec., in regard to the white willow for hedge purposes. In the winter of 1862-3, an agent for a "Chicago man," took a great many orders for the cuttings in this county, at the rate of $40 per mile—5,280 cuttings per mile. They were delivered in the spring of 1863. A considerable number of those ordering, however, refusing to take them on account of reports of the worthlessness of the white willow for hedges, and palpable misrepresentation of the agent. The majority took the cuttings, and many miles were planted; and of the miles planted in this region, I think there are not ten rods, or one rod, of good hedge, or even a decent show of growth for screen

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* See Report of Ohio Pom. Society, for 1861.

or protection for which it was recommended as well. *Salix alba* is pretty effectually "played out," and would find it hard to get a recommend about here. W. P. H.
Vermilion Co., Ill.

Inquiries and Answers.

Shares' Harrow.—In the Co. GENT., Oct. 6, you speak of Shares' harrow with STEEL teeth. In near thirty-six years' farming, with all kinds of harrows, I have never used one that gave so good satisfaction as this—while for putting in small grain, it is only excelled by the drill; but I have never been able to get one with STEEL teeth. Those I have used and seen, had cast teeth, which became dull with use—and if not otherwise objectionable, could not be used on our prairie soil. Can you tell where those with *steel* teeth can be had, and the price? R. H. W. *Ottumwa, Iowa.* [We know of no manufacturer who has made steel teeth for Shares' harrow, although they are very much needed. The objection is their cost—but they would undoubtedly be much cheaper than cast iron in the long run, as the latter become quickly dull, and rendered comparatively useless.]

Obstruction of Tile Drains.—I have taken up two or three rods of my tile, and found it filled with fine grass roots, entirely stopping the flow of water. The tile is laid in sandy soil, from eighteen inches to two and a half feet deep, covered with straw. I wish to know how I can prevent the roots from getting into the tile. Are the roots an out-growth from the straw or the soil? Would not some other covering, such as crushed sorghum cane, be preferable to straw, and perhaps prevent the roots from getting into the tiles? The tile have been laid only two years. DAMOS. *Huron Co., Ohio.* [We see no advantages in using sorghum over cornstalks. A better way would be to lay the tile deeper—they should never be less than two and a half feet from the surface—three feet would be better. If the want of descent will not admit this depth, the tile in those shallow spots may be encased in water-lime mortar.]

Corn Shellers.—Living as I do, in the midst of a pretty extensive corn-growing country, in common with many others, I wish to obtain information as to the *best* hand power corn sheller in use. A *good* hand sheller is an implement much needed among farmers. Such a machine would meet with a ready sale in this section, if it could be found. What I regard as desirable qualities in such a machine are—1st. Rapidity of shelling—2d. Ease of execution—3d. Shelling *clean*—4th. Separating the cobs from the corn, depositing the cobs in one basket and the corn in another. Do you know of any machine superior to the old Clinton sheller? and if so, where is it to be found, and what is the cost? How much corn will it shell per hour? Can it be turned by a man without taking his breath away? Should manufacturers see this, I shall be glad to hear from them at my address. JOHN F. OVENSHIRE. *Waverly, Tioga Co., N. Y.* [We do not know of a better hand-sheller than the Clinton, although there are some others that we think quite as good. It needs careful experiment for a season or two, with the different kinds to enable one to say positively which is best. But we cannot strongly recommend any hand-sheller, unless it be to furnish an occasional grist for family use, a feeding for chickens, or a small quantity for planting. Now that labor is so high priced, and so many farmers are furnished with horse-powers, a good horse-machine ought to be employed by every farmer, who raises any considerable amount of corn. It hardly pays to consume the valuable time of laborers to shell corn at the rate of ten or fifteen bushels per day, with hard work at that.]

Potatoes.—I gathered this fall some potatoes from my potatoe vines, that grew on the vines from the surface of the ground to the tops of the vines. There are similar cases in the neighborhood. It is an entire novelty here. Is it so elsewhere? I saved some to plant next season. M. W. B. *Wash. Co., Md.* [It sometimes happens that certain varieties will produce tubers above ground, which tendency is increased by wet seasons. They are curiosities only—and serve to show that the tuber is not really a root, but only an enlargement from the stem, the eyes being strictly buds.]

White Sprout and Monitor Potatoes.—I will say for the benefit of those wishing information concerning the White Sprout and Monitor potatoes, that they are extensively cultivated in this vicinity. The WhiteS prout was introduced here four or five years ago, and is much esteemed as a very early potato, of good shape and large yield, but the quality is not quite equal to the Buckeye, to which it has to give place, as the latter is introduced to market. What is known as the Monitor potato, with us, is a large, round, deep-eyed potato, white, but somewhat rough skin. Its season is short, and it might be called medium early, ripening, I should think, with the Buckeye. Its yield is very large, but few small potatoes, and quality good. It is fast gaining favor. W. W. G. *Woodbury, N. J.*

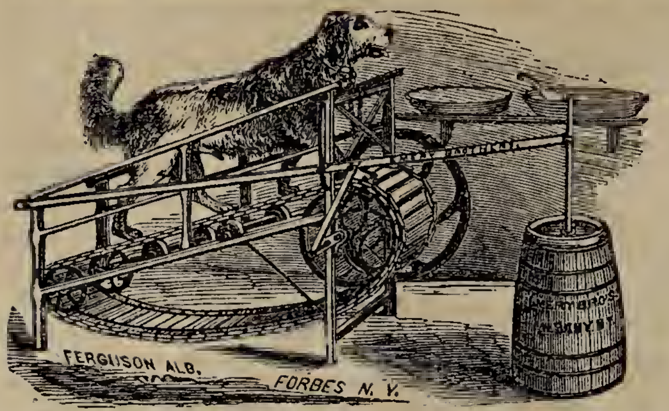
Muck and Leather for Manure.—Will the Co. GENT. please inform me what vegetable and mineral ingredients I must add to a cord of dried black alluvial soil, taken from fresh water meadows, in order to make it resemble most nearly a cord of barn-yard manure? Also please inform me the most simple method of converting leather scraps from a shoe manufactory, into manure. S. E. J. *Yonkers, N. Y.* [Alluvium varies greatly in its composition with the nature of the soil that has been washed down to form it—and its value or fitness depends much on the nature of the soil to which it is applied; but if it contains a fair share of clay, it will always when dry, form an excellent constituent part of compost heaps, mixed with common manure. If there is much clay in it, one third alluvium and two-thirds manure will be a good proportion. If containing less clay, they should be about half and half. Leather, by tanning, is rendered nearly insoluble, as every one is aware who has worn a good pair of cow-hide boots; hence leather remains in the soil a long time—several years—before it is reduced. If cut into fine shavings and scattered over and plowed or harrowed into the soil, it will have a good effect. If mixed with fresh or caustic wood ashes, or still better, with caustic potash, the reduction will be more rapid, and the compound may then be made to form a part of compost heaps.]

Sawdust in Compost.—I notice in the Co. GENT. you object to saw dust in compost—for instance in preparation for grapevines. Will you please answer in the Co. GENT. what is the objection to the use of saw dust? D. L. W. *Fort Wayne, Ind.* [We suppose some of our correspondents may have made the objection, but cannot now refer to it. The sawdust of most kinds of wood, if thoroughly dried, will form a good absorbent for mixing with manure, and retaining its liquid parts, but if quite wet or green, it will be of little use.]

Corn after Buckwheat.—I have a large piece of flat that was cropped with buckwheat last year, which I wish to plant to corn, but am told by corn-raisers that corn will not grow after buckwheat. If you will give your opinion in the Co. GENT. soon, you will much oblige D. McM. *Delhi, N. Y.* [The opinion is very generally entertained, and we think experience has proved, that corn will not do well after buckwheat.]

Michigan White Sprout Potato.—I would remark in answer to inquiry of correspondent in regard to Michigan White Sprout potatoes, that they are a well known variety with us in Camden County, N. J., and I presume in all the low counties of this State, and are considered by many the very best early potato we have, being ready to market, under favorable circumstances, about the 1st of July—of a good yield, and handsome appearance. The seed is very scarce this season, owing to the high prices of last summer tempting many to sell all they raised. S. G. COLLINS. *Haddonfield, N. J.*

The White Willow.—I see an inquiry in a recent No. of the Co. GENT. as to the utility of the white willow for hedge. I will just say I believe it to be a great humbug. Two years ago this winter an agent from Illinois canvassed this part of the country pretty thoroughly. He had splendid photographs of living hedges in Illinois, and carried with him a veritable white willow cane, one year's growth—also a slice of the end of a five year's growth about six inches in diameter. He would sell cuttings for 40 rod fences for $5, to be sent just in the right time to grow first-rate, with printed directions for cultivating. Well, we were going to have all our prairies fenced, for almost nothing, in about three years. I ordered cuttings for 40 rods to begin with. About the 1st of April the cuttings came, with a notice that at a certain day the agent would be at the railroad depot, with the "white willow cuttings," and those who did not meet him there, at that day, to pay for and receive them would find their orders with a justice for collection. I, with very many others, went and received our white willows and printed directions. I followed the directions carefully, and not one in five rods ever sprouted, and what did sprout are now all dead, and I have not heard of one of a great number who took them who did much better. The people are all silent on the white willow—all feeling we are most effectually *sold*. G. H. STEWART. *Beaver Dam, Wis.*


FERGUSON ALB.
FORBES N. Y.

Dog-Power.—Will you, or some of your correspondents, please inform me through THE CULTIVATOR, what kind of dog-power is most suitable for churning where there are only four or five cows kept and a medium sized dog. J. L. S. *Esopus, N. Y.* [We know of nothing better than the common one, shown in the above cut, which can be had at most agricultural warehouses.]

An Orchard Pasture.—I have a sheep pasture of clay loam soil. I wish to plow and drain it, set it out to an orchard, and repasture it to sheep. How would an orchard succeed on such soil? Would a mulch of muck two inches deep, direct from a meadow, be a benefit? Would witch grass seed in seeding it for an orchard-pasture, be an injury in any way? In fact, would it not serve to lighten the soil, and also to afford more feed, by not running out as soon as other kinds of grass? F. MANTER. *Wayne, Me.* [If the soil mentioned will raise good crops of corn after draining, it will do for planting an orchard. It should not, however, be converted to a sheep pasture until several years, or before the trees have attained good bearing size. When the trees are young, the soil should be kept mellow and well cultivated, and be neither occupied with grass nor sown grain crops. The witch or quack grass will be of no benefit—the roots do not extend down far enough to be of much use in loosening the soil for the trees. Clover is the only crop that loosens a heavy soil perfectly, but it is especially detrimental to the growth of fruit trees, and should not be sown in young orchards. The mulching of muck may be useful, but no other mulching can be better than that of a well pulverized surface, kept mellow by constant cultivation.]

Tobacco.—A lady who takes great interest in reading THE CULTIVATOR, and whose husband is now a soldier, wishes me to make the inquiry for her, if any of your correspondents or subscribers have ever tried the experiment of plowing in buckwheat as a manure for a tobacco crop—and if so, she desires them to give the result of that experience. She is inclined to think favorably of it, and proposes to try it next spring, but wishes to get the views or experiences of those who may have tried it, if any have, and also what kind of soil they tried it upon. J. C. A. *Butler Co., Iowa.*

Fruits for Central Vermont.—In answer to inquiries of a correspondent at Williamstown, Vt., we may inform him that it is doubtful if the dwarf pear would succeed well where such rigorous winters exist—although on some soils successful. The experiment should be quite limited until the point is tested. Dwarf apples are quite hardy, but are only adapted to garden culture, not to main crops. Standard pears of the three following varieties will no doubt prove hardy there, viz.: Flemish Beauty, Buffum, and Urbaniste. A fresh soil, if quite fertile, is excellent for an orchard, but if rather sterile, an old garden would be better.

Attempted Imposition, Wine Plant, &c.—An Indiana correspondent states that he was recently called on by a tree agent, who appeared to possess an unusual amount of honesty and candor, who stated that his peach trees were all grown on plum stocks, thus excluding the worm and always securing a crop, the time of blooming being two weeks later on the plum, or beyond spring frosts. He also asserted that the curculio never touched the fruit of his plum trees, because they were grown on the Doucaine stock. Our correspondent wishes our views before he purchases of said agent. Peach trees are often worked on plum stocks at the surface of the earth, but do do not exclude the peach worm. We have seen where this insect had entered the bark three feet from the ground, just above the place of union on the plum stock. Worked high above the ground, such trees are apt to break off, and they are mostly short-lived at best. The blossoming is not retarded a single day, nor is the tree made essentially hardier. There is no wine plant, sold as such, except the common pie plant. The Doucaine is the apple stock used for the larger kinds of *dwarf* apples, and of course the plum could never be worked upon it. The agent referred to was probably very ignorant or dishonest, but more probably both.]

Smoke-House.—Can any of your readers give me a plan for a good smoke-house? I have tried two or three kinds, and as yet have found none that is the right thing. LINCOLN. [We have seen an excellent smoke-house made as follows: It was about six feet square, the lower half built of brick, furnished with an iron-lined door, and serving as an ash-house, and place for the fire. The upper part, about four feet high besides the ascent of the roof, was made of wood. It was separated from the lower part by scantling joists, a space of two or three inches between them, through which smoke and air could freely pass, but sufficient to catch any ham that might accidentally fall, and thus save it from the fire. The upper part as well as the lower, was entered by a door from the outside; this upper door may be kept locked, except when admitting or withdrawing hams; but the lower may be left unlocked, for the hired man to build fires, without any danger of the contents above being stolen, as the thief cannot pass through the openings between the joists.]

Calves.—Can they be reared without milk or whey —say take them at four days old? J. B. F. [Calves may be weaned early, or within a few days, without difficulty, but milk should be gradually discontinued, so as not to produce sudden changes in food, which may prove fatal. First give new milk, gradually adding to it increased portions of skimmed or warm milk. Then add first a very small quantity of barley or other meal, increasing this very gradually, until it becomes a sort of gruel, water being added by a similar increase. In this way the food of the young animal may be gradually changed from milk to gruel, and from gruel to common wet messes. Flax seed tea, when to be had, answers well for the purpose of effecting the change from milk to meal.]

Feeding Dry and Scalded Bran.—Will you give me some information as to how is the best method to feed buckwheat bran to cows? I have been in the habit of having all my buckwheat floured, and feeding the bran. I have always fed it dry, but I find the general opinion of my neighbors is that it must be scalded in order to receive the most benefit. Where a man feeds a ton or ton and a half, it is quite an item how he feeds it, more especially this season when good hay is so scarce. My opinion has always been that to scald the bran, will, when fed to cows giving milk, cause them to give a larger quantity of milk, but will it keep them in as good condition? I have always thought that to feed it dry would keep them in better condition, leaving the quantity of milk out of the question, as the old saying is that it would stick to the rib more when fed dry than when made into slop. Another thing I notice: I do not hear any of my neighbors when fattening cattle, no matter what kind of meal or bran they feed them, talk of feeding otherwise than dry. A. C. DICKSON. *Rotterdam, N. Y.* [It is a common opinion that all ground food is better for cattle by being scalded or cooked; but unfortunately a sufficient number of experiments carefully and accurately made have not been reported, showing the exact amount of benefit derived. While scalding food for swine has been amply proved as eminently profitable, it is a common belief that it does not *pay* in feeding cattle. We should be glad to hear from any of our readers who have accurately experimented on the subject.]

Clover with Oats.—Will you be kind enough to let me know if, by sowing clover and oats upon soil well tilled, can I receive a fair crop of either or both? SUBSCRIBER. *White Plains, N. Y.* [A good crop of clover has sometimes resulted from sowing with oats, but it cannot be relied on. With a moderate or thin crop of barley or spring wheat, on the other hand, it is nearly always sure to succeed, provided the sowing is done quite early.]

Gas-Lime.—I have lately purchased a tract of land, almost entirely worn out, and design putting it down to clover in the spring, and as I am short of manure, I want to know if gas-lime will be of any benefit to the land. I am very near gas works, where any quantity can be had for the hauling. Will it increase the crop of corn, oats, or barley? W. D. S. *Joliet, Ill.* [Gas-lime varies in composition and corrosiveness—it is useful on most soils in connection with manure, but would probably be of little use on a sterile soil, applied unmixed, unless such a soil happened to be particularly deficient in it—this can only be learned by trying the experiment. Gas-lime does well spread thinly and evenly on grass lands, but is probably best used when employed as a component part of compost heaps.]

Food for Milch Cows.—What is the cheapest feed for cows where butter is the object—I mean to consider the greatest return for the least money, and the future profit of the cows? Is it best to cook beets, carrots and parsnips, when fed to cows? I would like to see some pieces on the above questions in particular. J. P. G. *Hardin Co., Ky.* [Cornstalks sown thickly for fodder, harvested, well cured, and kept from fermenting, are probably the cheapest kind of *fodder* that can be raised for cattle—unless sorghum raised for this purpose should prove by experience to be better. In addition to this, give each animal daily, a peck to a half bushel of carrots, or an equal amount of sugar beets, the winter through. It does not pay to cook them. A small quantity of corn or bean meal, or both, in addition to this, will have a good effect, but not more than two quarts should be given daily, at the utmost.]

Pump for Deep Wells. — Can you inform me whether there is a pump in existence which will raise water out of a well 90 feet deep, that is easy for a woman to use, and where it can be had? B. K. A. *Providence, Pa.* [We have known a forcing pump placed in a very deep well and worked through a gas-pipe, to answer a similar purpose well for several years. It was made by Downs & Co., Seneca Falls, N. Y., Our correspondent is also referred to the notice of a forcing pump made by J. D. West & Co., 179 Broadway, N. Y., published in the Co. GENT. of Oct. 20, page 256.]

Ditching Plow.—I wish to know if you can inform me where the adjustable ditching plow, described in vol. 2 of RURAL AFFAIRS, p. 296 and 297, figures 147 and 148, can be bought. From the description given, I think it would be of great advantage in draining. C. M. *Mercer Co., Pa.* [M. Alden, of Auburn, N. Y., and McFarlan Bros. of Union Springs, N. Y., who manufacture these plows, can furnish any desired information. They are also, probably, furnished by Paschall Morris, of Philadelphia.]

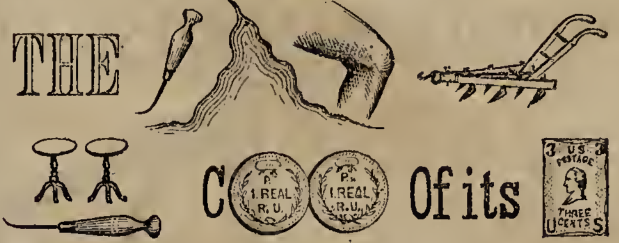
Sugar-Making—Italian Bees—Drill.—1. Where can I get a good treatise on maple sugar making?—2. Are the Italian bees more profitable than the common bees?—3. Which do you consider the best drill for wheat? H. J. C. *Holland, Mich.* [1. Our correspondent will find a good treatise on sugar making, with illustrations, in the 3d vol. of Rural Affairs, beginning at page 241.—2. Italian bees are much hardier and more efficient and industrious than common bees, and are consequently more profitable; but they need cautious handling, as they sting furiously, although introduced by some as the "stingless bee."—3. The best wheat drill with which we are well acquainted, is Bickford & Huffman's, made at Macedon, N. Y.]

Corn after Buckwheat.—D. McM. asks — Will corn do well after buckwheat?" Editor says, "We think experience has proved that corn will not do well after buckwheat." Some little experience in the cultivation of both these grains, and in the relation proposed, compels the rejection of the above theory supposed to be founded on experience, and I think we should look to other causes, if corn is a failure after buckwheat rather than in anything particularly obnoxious in the latter to the former grain. Does not observation prove that the poorer or less fertile portions of the farm are generally selected for buckwheat. And is not the *real antagonism* found *in the lack of fertility*. It is inferred that D. McM. is in process of permanently improving his "flat," and as a subduing crop, has used buckwheat, and if so, he may plant to corn upon condition precedent that his soil is *dry and fat*, not asking whether it has been poisoned by buckwheat. At any rate this is my

EXPERIENCE.

White Sprout Potatoes.—In answer to the inquiry of A. B., in the Co. GENT. of Jan. 12, I may say that there is a potato grown under that name in this part of the country. I have been acquainted with it for 8 or 10 years, and so far as I know, it is a general favorite, possessing in a good degree the requisite qualities for an early market potato—earliness, large size, productiveness and good quality. It is generally nearly round and smooth, white, and when cooked, dry and mealy. The price of early potatoes was so high last summer (from $2 to $3 per bushel,) that I think there are few if any of this variety now for sale here. E. Y. T. *Richmond, Ind., Jan.* 18.

Illustrated Rubus—No. 4.



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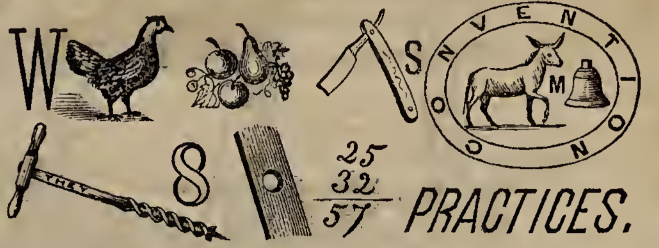
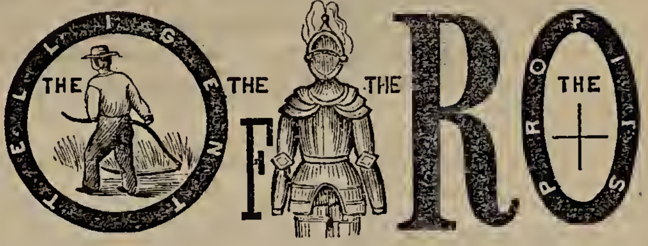


Illustrated Rebus—No. 6.



ANSWERS TO ILLUSTRATED REBUS.—No. 1. "Labor overcomes in all undertakings."—No. 2. "Let honesty be your rule and dishonesty and all underhand acts be put under foot." —No. 3. "The honest farmer fears not the penitentiary, nor is overtaken by intemperance."

The Agriculture of Ohio.—In the Ohio Agricultural Report for 1863, the opening chapter by Mr. Secretary KLIPPART, reviews in an appropriate and suggestive manner, the condition of Farming in that State, bringing forward several interesting and important points, to only one of which we can at present briefly advert.

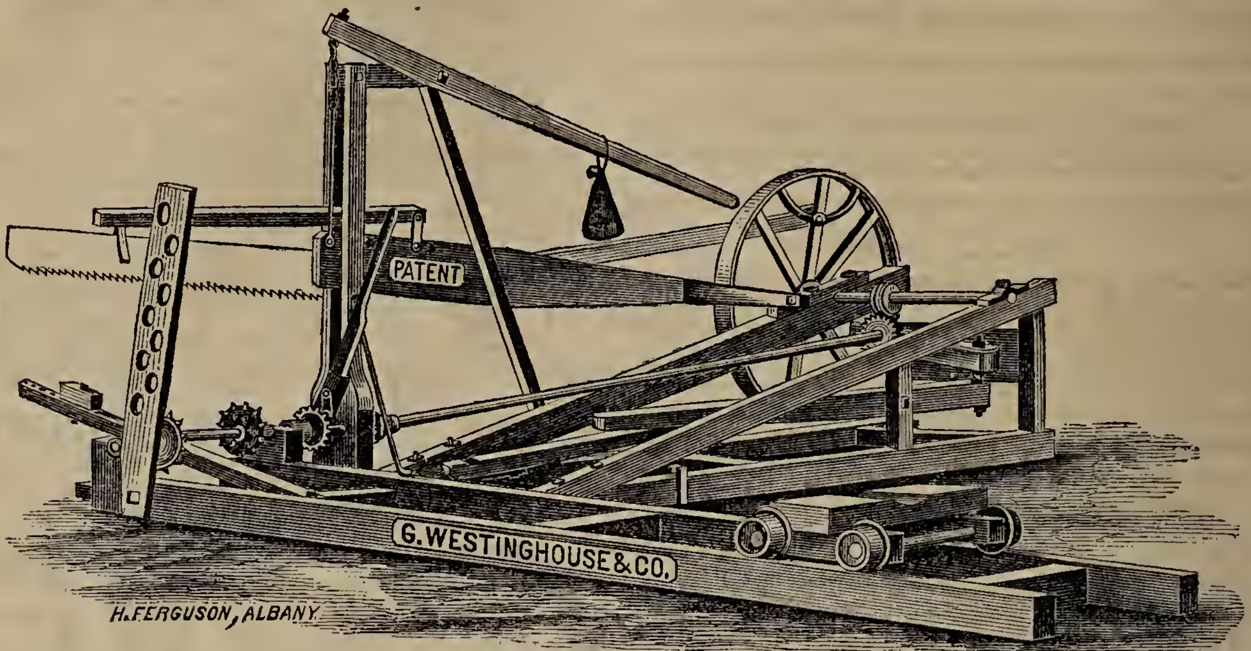
The fact that the Assessors of Ohio annually report the extent and amount of the crops produced, enables us to judge quite accurately, (notwithstanding the discredit attempted to be thrown upon these returns in a recent Bulletin of the Agricultural Department at Washington,) of the effect of the war upon our agriculture in a district of great agricultural importance. A table presented by Mr. Klippart enables us to compute following averages:

Kind of crop.	Average number of acres cultivated in each of the three years preceding the war —1858-59-60.	Average number of acres cultivated in each of the three years during the war—1861-1862, 1863.
Wheat,	1,776,905	1,943,680
Rye,	94,379	56,373
Barley,	100,013	64,478
Buckwheat,	95,918	33,963
Indian Corn,	2,190,327	2,144,556
Oats,	714,735	625,352
Meadow and clover,	1,412,334	1,538,079
Totals,	6,384,611	6,406,481

If some of the crops above enumerated show a decrease, it must be remembered that others, not here included, requiring more labor in proportion to area, such as flax, tobacco and sorghum, have been considerably enlarged, while the aggregate of the foregoing figures actually shows a slight advance in the latter column as compared with the former. With the very large number of men which Ohio has sent to the war, such a result we confess is beyond any anticipations which could have been formed when the war began, and contrasts most forcibly with the foreign predictions of its effect upon our farming.

G. WESTINGHOUSE & CO.,

IMPROVED CROSS-CUT SAWING MACHINE.



The attention of wood-sawyers is invited to the above machine. It is intended for doing the heaviest business, and may be driven by either Endless Chain or Lever Horse-Powers. Improvements in it over the machines in common use, consist of—1st. The saw always moves in a direct line with the centre of the crank-wheel, which enables it to be driven rapidly without bounding. 2d. The apparatus for rolling the log forward is operated by a screw on the crank-wheel shaft, avoiding the use of ropes, chains, or belts. 3d. The log-roller is adjustable to suit the size of log; and, 4th. The saw may be balanced so as to cut light or heavy, according to size of log.

Send for a Circular containing description of above machine; also of our Patent Endless Chain and Lever Horse-Powers, Threshers and Cleaners, Clover Machines, Circular Sawing Machines, Broom Corn Scrapers, &c. Address

G. WESTINGHOUSE & CO.,
Feb. 16—w&m1t. Schenectady, N. Y.

THE BEST AND CHEAPEST

Farming Lands in the Whole West

Are those of NORTHERN MISSOURI. Rebels are moving away, and are selling for whatever they can get. An extensive immigration from the Northern States, and from Europe already begun, will soon occupy that part of the State and develop its immense natural wealth. Free and full information given on application to

ELI THAYER,
Jan. 19—w&m3mos. 1 Park Place, New-York.

VINELAND LANDS.

To all Wanting Farms.

Large and thriving settlement, mild and healthful climate, 30 miles south of Philadelphia by railroad. Rich soil, which produces large crops, and which can now be seen growing. Ten, twenty and fifty acre tracts at from $25 to $35 per acre, payable within 4 years. Good business openings for manufactories and others; churches, schools, and good society. It is now the most improving place East or West. Hundreds are settling and building. The beauty with which the place is laid out is unsurpassed. Letters answered. Papers containing reports and giving full information will be sent free. Address

CHARLES K. LANDIS,
Vineland Post-Office, Cumberland Co., N. J.

[From Report of Solon Robinson, Ag. Editor of the Tribune.]

It is one of the most extensive fertile tracts, in an almost level position, and suitable condition for pleasant farming that we know of this side of the western prairies. Dec. 22—w&m3mo.

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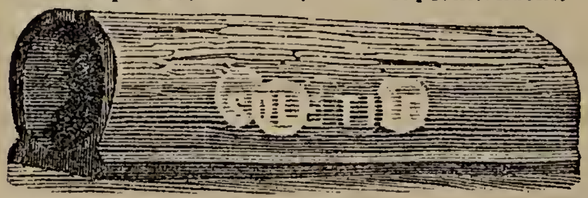
NEAR THE CORNER OF

LARK & LYDIUS-STREETS, ALBANY, N. Y.

WM. M. BENDER, Proprietor. | **GEORGE JACKSON** Superintendent.



The subscriber is prepared to furnish Round, Sole and Horse-Shoe Tile, over 13 inches in length, by the cargo, or in the smallest quantity on demand, at prices that he will defy any other parties to undersell him. He will warrant his tile hard burnt, and to fit close at the joints, and altogether superior to any made in the United States.

All tile delivered on board of cars and boats in this city free of charge. Price list sent on application.

Also DRAINING TILE MACHINES for sale of the latest improved patterns. For further particulars address as above. Ap7.—w&m.

TOBACCO SEED.—The true CONNECTICUT SEED LEAF, of my own growing.

25 cts. per Packet: 50 cts. per Ounce: $4 per Pound.

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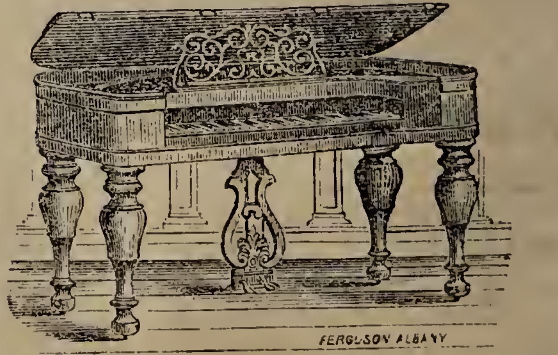

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J. E. EMMONS, Sec'y.

[*From the Executive Committee of the Agricultural Society of the State of New-York.*]

Resolved, That in the opinion of the Board, the system of accounts submitted by Mr. Cochran, in its general principles, is a valuable one, and may be usefully introduced among the farmers of our State.

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President National Business College,
Feb. 23—w&m1t. Poughkeepsie, N. Y.

THE CULTIVATOR

THIRD] TO IMPROVE THE SOIL AND THE MIND. [SERIES.

VOL. XIII. ALBANY, N. Y., APRIL, 1865. No. 4.

PUBLISHED BY LUTHER TUCKER & SON, EDITORS AND PROPRIETORS, 395 BROADWAY, ALBANY, N.Y.

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Our Prize Essays.

THE TURNIP AND ITS CULTIVATION.

BY R. GIBSON, FARMER FOR WM. BEEBE, ESQ., NORTHPORT, N. Y.

"More roots, more stock;—more stock, more manure;—more manure, better crops."

As brevity is said to be the soul of wit, so I consider that an essay of this kind, to be practical, should be as concise and as much to the point as possible. I will, therefore, commence at once with what I consider the great secret of successful cultivation of the turnip, viz:

AUTUMNAL CULTIVATION.—Every observant man will have noticed that in his stubble fields, directly after harvest, the weeds are looking in a comparatively weak and sickly state. He will also notice, if he goes into his fields two weeks afterwards, that some of those weeds have grown into large bushes, some not much larger than they were, but all bearing (if not already distributed) innumerable seeds, ready to be distributed over his fields by the first breeze, there to lie until the soil be brought into a proper state for their germination. He will rightly conclude that the proper time for him to fight these, his natural enemies, (or weeds) will be when they are weak, and before they have distributed their seeds. Therefore, as soon after harvest as possible, the two-horse cultivator should be used at such a depth as to get below the couch grass, if there is any; if not, just skimming the surface will be sufficient—if necessary, to be crossed by the same implement, followed by the harrow and roller—all couch grass, weeds, &c., which have been brought to the surface, to be collected and burnt, or carted off, making good foundations for manure heaps in barn-yards. If this has been properly done, you will have a nice seed-bed; if not, you must harrow and roll until you have, when the first rain will cause all seeds lying in the soil to the depth cultivated, to germinate. When you judge all seeds have started, it should be plowed up deep, except on light sands or sharp gravels, which may be plowed the regular depth, again harrowing and rolling until you have a fine seed-bed, causing all other seeds left in to germinate and be killed by the frosts. Your land will then be ready in the spring; whereas, if it is not touched until that time, what with the spring seeding, corn, and potato planting, &c., it often gets neglected until just before you want to sow, when the land requires more working, the season is not so propitious for killing weeds, and being more of them, viz., those that seeded in the fall, will cause more labor, and a week's rain at that time might cause you to lose your proper seed time, and perhaps a crop. I will say nothing here on the benefit derived, more especially on strong land, from the action of the frosts, air, &c., but I cannot leave this subject without again impressing upon the farmers of America, the great advantages derived, not only for the root crop, but also for their spring grain, by autumnal cultivation. After cleaning in the fall, all the working that will be required in the spring will be to get it into a proper state for the germination of the seed. You cannot have it too finely pulverized; the soil should fall from the plow like meal.

VARIETIES.—There are three classes of Turnips, viz., Swedes or Ruta Baga, Yellow, and White. The White or common turnips are sown last, but used first, followed by the Yellow, and lastly the Swede, which is the kind generally grown to store for winter use, and the one I will more particularly describe.

There are several varieties of Swedes—Skirving's improved purple top being most generally sown. Laing's purple top is also a very good kind—does not grow so large as Skirving's, but of a better quality; top very small.

SOWING.—There are two ways of sowing—either on the flat, in rows from 18 to 22 inches apart, or on ridges 26 inches apart. Each plan has its advocates; for my part I prefer the ridge on all soils except very light, as being so much easier to hoe and keep clean, and also where much farm-yard manure is used, as you get the manure just under the root.

RIDGING.—I will endeavor to describe how to ridge with a common plow. Many people will not have a double mould-board plow, and ridges can be made equally well with a common one; in fact I prefer it. The plowman commences the same as if he were common plowing, by opening a ridge 5½ yards from fence; but instead of backing it up he turns "haw again," and plows back on land-side, leaving a ridge about eight inches wide at top; he then keeps plowing round, making a fresh one every time until he comes to the fence, when he ought to have thirteen made. He must then wait until dung is put in the five nearest to the fence, and if guano is used it should be sown now. When they are dunged through from one end to the other, he commences to cover up the dung by splitting or running his plow down the centre of ridge nearest fence, coming back by making a fresh one; every time going down he splits a ridge on the dung, and every time coming up throws out a fresh one; by that means there will always be five ridges for them to be spreading the dung in while the plowman is making five more. If the ridges are made the proper width, say 26 inches apart, there will be just room for the wagon to go down between them without treading on the land—the horses should have long neck-yokes, and be driven wide apart, so as to walk in the furrows the wheels run in; if carts be used the horse will walk in centre one. One man and team will ridge about three acres a day, if he has not to wait for manure being spread. A light roller should now be run over the ridges, followed by the drill, which should keep close up to the plow, so that the seed may be deposited in the fresh soil.

On the flat the barn-yard manure is spread on the surface and plowed in, followed by the roller. The artificial should be sown by hand and well harrowed in; that is if your drill won't distribute both manure and seed. I hav'nt seen any here to do so, but in England our drills apply the manure in rows deeper than the seed, with a little mould between each.

Manures.—Of the various kinds of manure I have used, I found good farm-yard dung answer best, taking all soils and seasons into consideration. When I say dung, I don't mean straw and water, but manure made from animals eating oil cake or grain, and made in sheds or good yards, with buildings well spouted, applied at the rate of 15 to 25 loads per acre. But some will not have sufficient manure to spare, therefore must use some artificial, and, indeed, though not absolutely necessary, it is what I would always advise to give the young plant a good start, and force it along so as to get out of the way of the fly as fast as possible. I have tried nothing that answers the purpose so well as superphosphate of lime, applied at the rate of 2½ cwt. per acre. Others may be so situated that they have no barn-yard manure to spare; in that case I would sow bone dust at the rate of 12 to 15 bushels per acre. Half-inch bones will last longer in the ground, but will not be so available to the turnip as dust. I tried several experiments in England, but unfortunately have lost the results. In one I recollect each plot had the same quantity of barn-yard dung, and same money value of artificial—soil gravelly loam, and that bone dust yielded the heaviest weight, superphosphate of lime next, home-made poudrette, consisting of night soil, pigeons' dung, and coal ashes, next, and Peruvian guano worst. In the following crop of barley, it was plain to see where the bones and poudrette were applied. What manure is applicable to one soil is not to another; a man must ascertain for himself what suits his land the best; there are so many circumstances to be taken into consideration—character of the soil, previous course of cropping, climate, &c. It would be foolish to say bones would suit all lands, or that because guano failed on a certain soil, it was no good. It is like a physician prescribing for a man when he doesn't know his disease. I have never found bones to fail,* and of this you may be sure, that good barn-yard manure always tells. There are several theories in its application. In Scotland and parts of England it is applied green, *i. e.*, fresh out of yards; then again it is well fermented and turned over twice. In my opinion, it is best applied to strong lands, long and unfermented, as it helps to keep it open and porous, but for lighter soils, I would haul out my dung to the fields in the winter time, as it would be forwarding the work in the spring, and would make large heaps 60 or 70 loads in a heap, and to prevent its fermenting too fast, would draw the loaded wagons on the top every time—would then square up the heap and cover with soil; about three weeks or a month before using, would turn over again, covering with soil.

One of the best crops of Swedes I ever saw, certainly the largest specimens, was grown on new land in Canada West. The timber was all burnt on the ground—the ashes well spread. It was burnt in good time, so as to allow the log-heap bottoms to get well cooled, and had also a shower or two of rain to leach the ashes, both which must be attended to on new ground. It was then sown broadcast, without being plowed, at the rate of half pound seed per acre, and brush-harrowed in. The seed was well sown, and took very little hoeing. The great difficulty in sowing broadcast, is to sow thin enough. It is a cheap way to grow roots by anybody that has new land; they are also safe from the fly, never attacking them when sown on land where the timber has been burnt.

Time of Sowing.—Swedes should be sown here from June 10th to 18th, or if a favorable season, would do up to July 10th. When sown too early there is danger of growing too much into top in the autumn, and if too late the crop will be light. The late sown ones generally escape the fly the best, and if they have a good dressing of artificial, to force them along well in their early growth, will often be better than the first sown ones.

Quantity Seed per acre about Three Pounds.—For the sake of an extra pound of seed per acre, a crop has often been lost. Sow thick enough, so that if the fly does attack them there will be plenty left for a crop; besides the thicker they are sown, the quicker they will be out of danger, the plants drawing each other up. When drilled on the flat, five pounds of seed will be about the quantity needed.

After Cultivation.—The young plants will make their appearance in about six or seven days. As soon as they can be distinctly seen, they should have the horse-hoe run through them, and when the plants are about three inches high they will be ready for hand-hoeing; and this is one of the most particular operations of the whole. If the horse-hoe has been properly used, it will have left a ridge from three to four inches wide, and two to three inches above the general level, with a row of plants in the centre; these are singled out with the hand-hoe, by alternately pushing and pulling, which will give the ridge the proper form, being careful to leave but *one plant at intervals of* 12 *inches*, and if the land is very rich they may be left still farther apart.

I have had the greatest difficulty in getting men to hoe properly; they will leave them too close. If your land has been properly cleaned before sowing, it will require very little attention—now running the horse-hoe through a couple or three times, and it may require going over again with hand-hoes. But if the weeds make their appearance, keep up the battle. You can't grow both. Whenever they show themselves keep the horse-hoe moving; let them get once well ahead, and you are beaten. A man should horse-hoe from four to five acres a day, and single hoe one-third. When sown on the flat he won't be able to do so much, and the plants may be left still farther apart. When singling save some of the finest plants to fill up blanks with, if there are any. Swedes will do very well transplanted; white or common turnips won't bear it.

Pulling.—A man must be guided by the climate in his part. They should be safely pitted before frost sets in sharp; frost won't hurt them if they are not pitted frozen. We commence here, (L. I.,) about Nov. 17th. I will endeavor to describe a way we used to pull our turnips in Canada, (commence about Nov. 10.) I have seen it done nowhere else, and was surprised to see it answer so well. Take a sharp hoe and cut off the tops of two rows, gathering them with your foot as you go along. When you have gathered a good sized heap, pull up a few turnips with your hoe where the heap is to be. Another man brings along two more rows, and piles his tops on the same heap, so that the tops from four rows are piled together in one row of heaps. They should be made large and well set up, and then they will keep good up to Christmas. Care should be taken to pile the tops in a line each way. When you have taken off all the tops, run a pair of harrows between the rows of tops, and then cross harrow them. If the turnips are large and ground dry, it answers well and is very expeditious. The only two winters I spent in Canada I helped to take up eight acres that way; we had not a rotten turnip, and were feeding in May. The way generally practiced is to have knives about ten or twelve inches long, made out of old scythes; cut off tops and bottoms. Better leave a little soil on than cut deep in the root. Two men work together, each taking two rows, putting roots in rows between them, and piling tops in heaps in the outside man's row, so as to load up turnips from each side of the wagon, without driving over the tops.

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* We have known an instance where bone dust was applied to ruta bagas without any sensible effect. *Eds. Co. Gent.*

Storing.—They may be either stored in the field in small heaps, or carted home and put in long piles. If piled in the field, the heaps should be about a yard and a half wide at the bottom, and about the same height, gradually sloping to the top—may contain 60 to 100 bushels, according to the crop. being either carted or thrown together by hand, as most convenient; the heaps to be covered with straw and then with about 10 inches of soil, well beaten down, so that there are no cracks or open places where the frost can get in. Those placed in long piles to be done the same—care being taken that they are made on top of the ground, in a dry situation, and at intervals of 6 or 8 feet. Drain pipes or whisps of straw should be placed in the ridge to allow the heat and steam to escape, for after being placed in large heaps they always heat more or less, and if there is no vent for steam, &c., to escape, it rots the roots—more turnips are rotted every year by being covered too close than by frost. I don't like cellars so well as pitting; they are very well to hold sufficient for a month or six weeks consumption; 1,500 to 2,000 bushels, as many cellars hold, are too many to put in a heap. No cellar should be built under a valuable building, as the steam is very destructive to all kinds of wood. I know a building that has had one new set of sleepers, and the third floor is being put in this winter, in twelve years, all rotted by the steam and heat. When put in cellars they should be placed on rails and have ventilators from the rails, consisting of four boards, about six inches wide, nailed together in form of a chimney, with auger holes bored in them.

Of the various kinds of yellow and white turpips, I consider the yellow Aberdeen and green round to be the two best varieties. They may be sown after rape or oats and vetches, cut green in the spring, or directly after harvest. Plow up your cleanest stubble field, harrow and roll to pulverize, bearing in mind you cannot have it it too fine; a little guano or some other quick acting manure to be well harrowed in before the seed is sown, which may be done either with the drill in rows sixteen to twenty inches apart, at the rate of two pounds per acre, or sown broadcast with one-half pound per acre; these seeds being much smaller, sow thicker than Swedes. The largest turnips I raised this year were grown among corn, just before the last cultivating; was sown with one-half pound per acre, strap-leaf turnip. Be careful and get good new seed. Old seed is unsafe, but Swede seed will keep good two or three years.

Feeding.—The tops will be used. First, they may be carted and spread on the grass land.

Turnips should always be cut for stock, but if you have not a proper machine, be careful how you cut them for cattle, as they are more liable to get choked by a turnip badly cut than by feeding them whole. R. H. Allen, Water St., N. Y., sells a very good machine. By turning the handle one way you cut in slices half an inch thick for cattle; by turning the other, into oblong rectangular pieces for sheep. A long wooled sheep will eat from ten to fifteen pounds Swedes a day; a Merino not so much, that is, give them what they will eat. In England they keep the feeding sheep without water to cause them to eat as many turnips as possible. When you commence feeding, don't give too many, as they will be apt to scour them. If you want to fatten sheep, you may give all the turnips they will eat, giving a little hay or straw first, turnips here being too cold on an empty stomach. Suppose you feed hay first thing, then turnips, grain at noon, turnips again at night, with oat or pea straw in racks.

If your straw was cut green and well cured, you will require very little hay for a breeding flock of ewes, if you have roots for them, but be careful not to give the ewes them on an empty stomach. I believe that is one cause of water or pot bellied lambs. If you have good pea haulm and cornstalks, and allow each sheep three or four pounds of turnips in the middle of the day, you will not require either grain or hay until a short time before lambing, when the ewes should be allowed a little hay.

Cattle will eat from one to two bushels a day, according to age, breed, &c. I have seen cattle fattened in England on oil cake, turnips, and straw, without tasting hay or grain. Cattle will winter well here without hay or grain, and grow well on turnips and and straw, with cornstalks once a day. The most economical way to use them is by pulping, *i. e.*, broken up fine like apple pulp for cider. I worked a machine that pulped 100 to 120 bushels an hour. Mixed with cut straw, and allowed to lay a day, cattle eat it with great avidity. You don't require so many turnips, and you can make use of all kinds of refuse straw that cattle would not otherwise eat. Mangolds are better for milch cows than turnips, not that they cause a greater flow of milk, but because turnips are apt to give a strong taste to the milk. They also make very good feed for hogs when boiled and mixed with meal.

Cost of Production.—In estimating the cost of growing an acre of turnips—I am calculating the land to be foul and require cleansing—the cost, of course, would not be so much on clean soils.

Fall—Two cultivatings,	$1.50
Two harrowings,	50
One rolling,	25
One plowing,	1.50
Two harrowings and rolling,	75
Gathering off Couch grass,	50
Spring—Plowing and cultivating,	1.50
Harrowing and rolling,	50
Ridging,	1.00
Manure,	7.00
do. Artificial,	3.50
Hauling and spreading manure,	3.00
Seed,	1.50
Drilling,	50
Horse-hoeing four times,	1.50
Hand-hoeing,	3.00
Pulling and topping,	2.50
Heaping and covering,	1.50
Interest on land,	2.00
Total,	$33.50

The season being propitious, with the above treatment, 700 bushels ought to be raised per acre.* I have grown upwards of 1,000 per acre. If hay is now selling at $30 per ton, and three pounds of turnips be considered an equivalent to one pound of hay, at 700 bushels per acre, will leave the feeding value of an acre $210; and I mantain that stock will be healthier having turnips in winter, than to be confined to dry food altogether. It is against nature to be fed exclusively for six months on succulent food, and the next six on dry feed.

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* Which at this cost would be about 5 cts. per bushel.—Eds.

In this neighborhood, (L. I.,) turnips have been sold at $1.50 a barrel in the field, which makes $350 per acre.

I have charged one-half the value of the manure, calculating the land to be benefitted three years.

The tops I have not charged for, but consider them worth $8 per acre.

Rotation of Crops.—A root crop here can never bear the same relation to other crops in the rotation as it does in England—there it is the great crop for cleaning and manuring the land for another course. Here it must be grown in a great measure for the value of the root alone—not for the benefit derived to the land by the cultivation of that root; there half the crop is generally eaten on the field where grown by sheep, the other half being fed to cattle in sheds—here it must be regarded more as a crop which may be profitably used to keep our cattle and sheep in a growing and healthy condition through our long winters. Though here much more might be done towards increasing the fertility of our soils by growing white turnips and eating them on the land by sheep; they should only have as much given to them as they will eat up in 3 or 4 days, being confined by hurdles. Even in this climate they might be kept out nearly until Christmas when they would be ready for the butcher, if in fair order when commencing to feed.

I have said nothing about the manurial value of a ton of Swedes. Mr. Lawes computes it at four shillings three pence a ton, equal to $1 of our money.

As a crop in the rotation, would take a field that wanted cleaning, as you have a better chance to get your land thoroughly cleaned with roots than any other crop, though it will be more trouble. After roots, if your district is suitable to the growth of barley, would sow that, and seed down, as it is well known grass seeds catch better with barley than anything else, and the soil after turnips, with the constant hoeings, is generally in just such a friable state as barley delights in.

Conclusion.—In summing up, the main things to be attended to are thorough pulverization of the soil; the crop to be kept well clean; you may as well expect figs from thistles as to expect turnips to grow with weeds. Give plenty of manure; the turnip is grateful and will pay you good interest for what it uses, and what remains will not be lost, the next crop receiving the benefit. Keep the horse-hoe moving even if there are no weeds. Give plenty of room; let there be not less than 12 inches from plant to plant. Do every thing required in its proper season.

What is it that has brought the land in some parts of England to the present high state of cultivation? Sheep and turnips. I know large tracts of land in Lincolnshire which 30 years ago were let at two shillings six-pence, fifty cents, merely as rabbit warrens, being thought too poor to grow any thing—light blow-away sands—are now being let at 50 shillings, equal to $10, per acre per year; by growing white clover and turnips, and eating all on the land with sheep, it soon became capable of growing barley, and now as fine crops of wheat are grown as can be found.

And you may depend upon it, that in whatever district in this country turnips are grown to any extent, there you will begin to see the land increasing in fertility. It is a crop that *demands* such cultivation to be grown successfully, that the land and other crops will feel the benefit of it throughout the rotation, and then the farmers' motto will be the same as mine, viz: "More roots, more stock;—more stock, more manure;—more manure, better crops."

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What is the difference between a toad and a toady? One loves little bugs and the other big bugs.

PRIZE ESSAY ON MUTTON SHEEP.

BY JURIAN WINNE, ALBANY COUNTY.

The Breeding, Management and Feeding of Mutton Sheep.

Selection of the Breeding Flock.—In selecting a flock of Long Wooled sheep, choose only nice straight even Ewes, with a broad chest, a round barrel, broad across the hips, standing straight on their legs, &c. Let your ram also be perfect in all his parts—a small head, straight, and rather long ears, a lively, bright eye, broad across the shoulders and breast, straight and even across the back, round in the barrel, full in the hams, holding as near as possible the same width from shoulder to rump, and well wooled over and under, though not too close for mutton sheep.

If the flock is to be bred for mutton and wool only, it matters not much (for one cross, and *one cross only*) what the ewes are, provided they are not little Merinos; as I have had lambs that were dropped by small inferior ewes by a thorough-bred Leicester ram, able to compete, as far as weight and wool were concerned, with those from thorough-bred mothers. As illustrating this point, I recollect an instance in which I came into possession of a lamb got by my thorough-bred ram out of a small ewe, which, in good condition, would not weigh over 120 lbs., live weight; and this lamb, at one year old, sheared twelve pounds of clean, washed wool, and, at three years old, weighed 337 lbs., live weight, and dressed, over 200 lbs. of mutton.*

Management in Breeding.—The ewes should be in good feed for two or three weeks before putting the ram with them. Have the ram also in good thrifty order, feeding him for two or three weeks previously from one pint to one quart of oats, or oats and corn, or peas, per day. Tag the ewes, and do not leave the ram with them more than twelve hours out of the twenty-four. Keep both ram and ewes well through the winter by feeding not only hay, but also a few roots and a little grain if necessary every day.

Ticks.—Examine them and see if they have ticks, and if they have, get rid of them, for they will injure the sheep very much before spring, both in their wool and condition. If you have no better remedy, use a little Scotch snuff, or tobacco dust (which is much cheaper and just as effectual,) sprinkled in their wool—it will not injure them in any weather. If they have many, it it will be necessary to repeat the sprinkling in two or three weeks, as then the progeny will have come out, and this will finish the insects for that winter.

Shelter, &c.—Treatment of Colds.—Have good sheds, with small yards attached for good weather, but do not allow them to get wet in cold weather under any circumstances, as one wetting to the skin, when it is cold, will reduce them more than you can replace by good feeding in two weeks. Give them plenty of clean bedding at least once a week, and oftener if necessary. Let them have access to pure water at all times, and have it, by all means, right in their yards. There should

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* As matter of interest I subjoin a statement of what, at current rates, based upon amounts of food actually consumed, would be the account current with this cross-bred lamb:

First year's pasture, seven months,........	$1.00
do. grain (oats) at $1 per bush.—1 pint per day nine months, 4½ bushels,...............	4.50
do. hay, six months, 1 lb. per day—180 lbs. at 1¼c. per lb.,..........................	2.25
do. roots—4½ bushels at 25c., ...	1.13
Second year's pasture, $1.50—grain, $6—hay, $3.37—roots, $1.50,...........	12.37
Third year—same items as second year,................	12.37
Fourth year—pasture, $1.50—grain to Feb. 1st, 4 bush., $4—hay to Feb. 1st, $1—roots to Feb. 1st, $1, ...	7.50
Total value of food consumed,.... ..	$41.12
First year's wool clip, 12 lbs. at $1, ...	$12.00
Second do. do. 10 lbs.,............	10.00
Third do. do. do.	10.00
Sold for—337 lbs. live weight at 12c.,......	40.44
Total receipt, being a profit of $31.32, ...	$72.44

also be a box, with salt in one end of it, and salt and wood ashes in the other, in the yards, and *never suffered to get empty*. Feed occasionally a little browse, pine or hemlock; or, if this cannot easily be obtained, add a little rosin or nitre to their salt about once a fortnight. Smear their noses with tar at least three times in winter, and three times in summer—in summer immediately after shearing, as that will help to prevent their taking cold; about the first of August, as at that time, flies are very troublesome, and the tar will keep them away; and then again about the middle of October, which is about the time they should be tagged and the ram put with them. In winter—when you bring them into the yards; again about the middle of January, and the third time, in March. And if any of them have foul noses at any time, put on the tar; and, if they have a cough, put some into their mouths also every few days, as this course of treatment, with me, soon results in cure.

Lambing Time.—Three or four weeks before lambing time, increase your grain and decrease your roots, as the latter in too large quantity, are apt to cause too large a flow of milk and injure the udder; while, with too little grain, the ewes are not strong enough at lambing. During the season of lambing, they should be watched very closely, and assisted a little—very carefully, however—if necessary. Be sure that the lamb nurses a little after an hour or two; and if the ewe, as is frequently the case with young mothers, is not disposed to let her lamb suckle, hold her a few times while the lamb is nursing, and this will generally remove all difficulty in the future. If lambs come in winter, the ewes should be in a dry, warm place, with plenty of clean litter.

Spring and Summer Treatment.—When the lambs are about four weeks old they are to be docked, and castrated if the latter is to be done at all, as at this age I never knew them to suffer in the least from the effects of it. Poor pasture and cold storms are ruinous to both sheep and lambs—therefore do not turn them out too early, and continue a little grain for ten or fifteen days after turning out, or until they have plenty of good pasturage. In summer they should have a field with plenty of running water, and a few shade trees if possible, and if it is a little hilly, so much the better. If the grass at any time scours either the sheep or lambs, tag them as soon as they are better of it, as such ones will sometimes get maggotty and die if neglected. About the middle of August wean the lambs, removing them as far as possible from their mothers, as both will quiet down much sooner if they cannot hear each other. The lambs should be put on the best feed attainable and, the ewes on the poorest; and, after a few days, examine the latter, and if their udders are hard or caked, milk them out and rub with a little sturgeon oil or arnica, either of which will not only soften the udder, but also dry up the milk. As soon as the ewes are all right in this respect, put them on good feed again to recruit for winter.

WINTERING THE LAMBS—YEARLING WETHERS.—Two or three wethers or dry ewes should be put with the lambs when they are weaned, to keep them tame; and, if the feed is not of first quality, give them daily a few oats, and the old ones will soon teach the lambs to eat the grain. About October 1st, separate the ram and ewe lambs, and keep them separate from that time until the next shearing, unless it is desired that the ewe lambs should breed, which I consider very bad policy, and never under any circumstances allow.

Continue feeding a little grain to the lambs all through the first winter, and until about shearing time, when it should be omitted altogether. After harvest such yearlings as are to be fattened the first winter may begin to receive a little grain; and I have found by experience that this is the most profitable time to prepare them for market, all things considered. When winter sets in, slowly increase the quantity until it reaches one quart per day for each sheep; and, with a good breed and good management, yearling wethers can be made, as I have repeatedly done, to weigh from 190 to 240 lbs. live weight, and dress from 100 to 140 lbs. of mutton before they reach two years old. The result, at present prices, I compute as follows:

MONEY RETURN.

Say 200 lbs. live weight at 12c., is	$24.00
First clip of wool, 10 lbs.,	10.00
	$34.00

COST OF RAISING AND FATTENING.

Pasture first season, about	$1.00	
Grain, the first year—say 5 bush. oats,	5.00	
Hay, first winter, 150 lbs. at 1¼c.,	1.87	
Pasture, second year—say	2.00	
Feed second winter—4 bush. oats and oil-meal,	5.50	
Hay, second winter, say 200 lbs.,	2.50	
		17.87
Balance to credit of sheep,		$16.13

THE SELECTION AND PURCHASE OF FEEDING SHEEP.—In what has been said so far, I do not overlook the fact that a great many of our feeders depend on buying a majority of the sheep they fatten. The proper selection of feeding animals is an all-important point. Although experienced feeders can tell pretty well by the eye, yet even with them the eye is sometimes mistaken, and I consider it much more accurate for both the experienced and inexperienced to handle the sheep when buying. This course, with but little experience, leaves no room for mistakes. It is often the case, moreover, that feeders, instead of going themselves or sending some competent person where the sheep are raised, to buy and handle them, simply buy at Albany, Buffalo, or other markets from the drovers—a mode of purchase open to serious objection, for the reason that such sheep frequently do not feed well, owing to the bad handling or harsh treatment to which they may have been subjected. While in Canada once to buy sheep, I recollect meeting a man on horseback driving a flock before him with two dogs—the horse on a smart trot, the dogs chasing, and the sheep with their tongues out panting for breath. On learning from the man, in answer to a question, that he was taking them to market, I told him that he was doing them a great injury; "not a bit," he replied, and trotted away, but I very well know that I would not willingly be the man to undertake the feeding of those sheep. Sheep *must* be selected and handled with great care; they should be driven very carefully, and not over ten miles a day. Then, if they are to be shipped on the cars, which they always should be, if possible, in preference to driving them a single mile unnecessarily, they should not be loaded until they are perfectly cool, and never under any circumstances when their wool is wet. They should never be over-loaded; from 60 to 100 according to size, are as many as a single deck can accommodate. The danger in over-crowding is very great—both of their heating and of losing some of them. I have frequently seen half-a-dozen dead ones pulled out of a car load, all lost on account of over-loading.

Treatment on Arrival.—When the sheep are brought home and rested over night, the first thing to be done, according to my practice, is to smear their noses well with tar; they will then throw off all cold or dust from their heads contracted during the journey. The next thing is to *size them properly*—that is, if I had brought home five hundred sheep, I should first select out one hundred of the largest and best ones, and send them to the best pasture I had or could get for them. Then I would draw out the hundred smallest and poorest ones. If the aim in buying has been, as it always should be, to get nothing but good ones, the remaining three hundred will be a pretty even lot, and can be separated to suit the pastures, always remembering, however, that the smaller the number of sheep and the larger the pasture, the better they thrive. Give them plenty of salt twice a week, and keep them on good pasture if possible, but if the pasturage gets short as it frequently does by the first or middle of November, a little grain should be fed, beginning at the rate of one gill to each sheep per day of oats, or oats and corn, or peas, and increasing after the first week gradually up to one pint per day.

THE YARDS AND STABLES.—It is very bad policy to wait until snow comes to get the yards and stables ready. By commencing early, and, if there is a saw-mill near at hand, by hauling into the yards and stables four or five inches of sawdust, the stable floors will not only be saved, but the liquid manure from the sheep is also preserved, making a very valuable addition to the compost heap, especially for heavy land. As soon as the trees shed their foliage, rake and haul in on top of the sawdust, leaves to a depth of five or six inches more, and the two will together make plenty of bedding for at least four weeks by stirring up the leaves a few times. With the present price of straw ($25 per ton) a month's bedding saved is worth looking after, aside from the probability that all the straw may be needed before spring, even after taking this precaution.

The above preparations over with, the feeding boxes should be taken out at leisure, and cleansed by sprinkling the inside with slacked lime—thus removing all that greasy smell which there would otherwise be about them. Put them where needed, upside down, and when the snow comes, there will be nothing to do but turn them over, straighten them up, put in the feed, and let the sheep come. I mention such details, because I have found by experience so great advantages in being ready in time, instead of waiting till the snow has fallen, with the sheep standing and lying in it, and exposed to the storm for twenty-four hours or more, until the shelter is prepared.

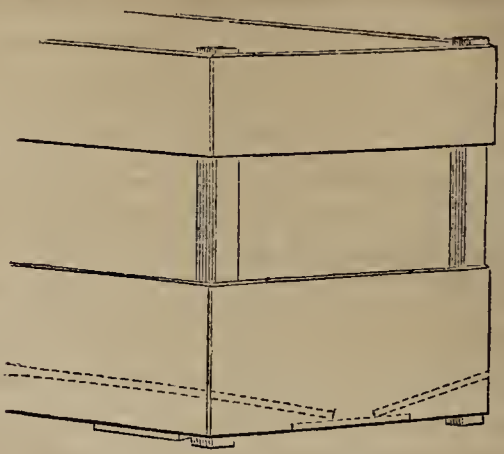
As already stated, as soon as yarded, the sheep should have their noses smeared with tar. The water arrangements are next to be perfected, if not already done—one trough or tub in each yard or shed, accessible to the sheep at all hours of the day. The salt boxes constantly within their reach, contain salt at one end, and salt and wood ashes at the other, in the proportion of one part of ashes to two of salt.

Properly Regulating the Feed.—By feeding liberally with roots and not too much grain, during the first week at least, the change from green feed to dry will be less apt to affect the sheep. In feeding, unless a person can do it himself, which is very seldom the case, the feeder should be instructed with great care, how much grain is to go to each yard or stable according to the animals it contains. An over-feed at the commencement is almost sure to bring on the scours, and after they are over it will take at least two weeks' good feeding to put the sheep back where they started from. My mode, to avoid mistakes, is to number my yards and stables, and count the sheep in each yard and stable—allowing to each sheep one-half pint of grain per day to start with, unless they have been fed grain previously, when I allow a little more. I then make out a schedule, thus: No. 1—60 sheep at one-half pint per day is 15 quarts, which divided in two feeds is 7½ quarts to a feed; so I write on the schedule "No. 1—60 sheep must have 7½ quarts at a feed morning and night"—No. 2 at the same rate according to number, and so on until I get them all. This paper is tacked up in the place where the feed is kept, and by going with the feeder a few times to show him and see that he makes no mistakes, if he is a good man he can do it as well as the farmer himself. As soon as the feed is to be increased, a new schedule is made out accordingly, and so on, until the sheep are fed one quart each per day, when I consider them on full feed, especially if the feed is corn, beans or oil meal, or a mixture of either. If oats or buckwheat compose part of their feed, they should have a little more.

Feeding Boxes.—In these times of high prices for hay, grain and labor, the right kind of feeding box or rack is all-important. Having seen several different kinds not only in this State and in Canada, and I hope without being prejudiced in favor of my own, I have nevertheless been unwilling to abandon it for any other, for use with fattening sheep. It is simple, cheap, and easily filled and cleaned. Any boy who can saw a board and drive a nail or screw, can make one; all it requires is one scantling two by three inches, 15 feet long, and eight boards; it only has to be turned upside down and back again to clean it out, and as the feeder with his basket of grain or roots walks from one end to the other, scattering them along evenly in the box, twenty or twenty-five sheep according to size will follow in his rear and begin eating. Moreover, there is a saving of hay, as they stand with their heads together working it into rather than out of the box, and I am fully confident that in feeding 800 sheep last winter, I did not lose altogether 400 lbs. of hay. For breeding animals I have seen boxes which are preferable; one sent me by a friend and others made after it, excel in avoiding entirely the rubbing of the wool on the sheeps' necks—but with fattening sheep this amounts to nothing.

Regularity in Feeding.—Regularity of hours is very important. Sheep should not be fed one morning at five o'clock, the next at six, and the third at seven. The day I write, owing to the illness of one of the boys, I have had an example in point; on going out at five, a board was found off at the stable, and an end out of one of the feeding boxes. To replace these was a job of some time, and the grain only had been fed when the breakfast bell rang, leaving the sheep without their hay. I remarked to my man that this mishap would cost us "all the day's feed," which I verily believe to be the case. Our rule is this:

Grain and oil meal are fed at half-past five A. M. As soon as the grain is finished hay is given—no more than the sheep will eat clean. The different yards and stables are carefully fed each day *in the same order*, which is important to avoid confusion and mistakes—beginning with No. 1, and so on through the list. After breakfast water is given, going around twice to see that all are well supplied. The roots are next cut (ruta bagas, which I consider best,) and of these to my present stock of about 350 sheep I am now feeding 10 bushels a day. At eleven o'clock straw is fed. Twelve is the dinner hour, and immediately after dinner the roots are fed. The troughs and tubs are now all examined, and replenished with water if necessary—also salt, salt and ashes, browse, litter, and anything else that may be needed is supplied. The evening and next morning's feeds of grain and oil meal are next prepared, and hay got ready for both night and morning. At 4 P. M. feeding the grain is again commenced, followed as before by hay, after which the water tubs and troughs are emptied and turned over, and the work is finished for the night.



Description of the Feeding Box.

Feeding Box 12 or 14 ft. long, and 22 inches wide—the bottom slanting from both sides and resting on a board in the middle, forming a complete trough for grain or roots. The bottom side board should be 11 or 12 inches wide—then a space left of 8 or 10 inches according to size of sheep—then the top board, 8 inches wide—the ends and sides to match. Corner pieces of scantling in the inside, of hemlock or oak, as pine will not hold a nail or screw, the latter of which is preferable in putting them together.

Avoid Disturbing the Sheep.—Never allow a stranger into the yards unless accompanied by the feeder, or some one familiar with the sheep. I have frequently known the approach of a stranger drive them pell-mell into and over their boxes, and the effects could plainly be seen with them for two or three days afterward.

The Stretches.—Should any of the sheep get the stretches which they are apt to do when high fed, give a quid of tobacco half the size of a hen's egg, and if not relieved in twenty minutes, I give them a second dose, but nine times in ten the first dose cures. For stoppage in their water, I give one teaspoonful spirits nitre, with the same quantity spirits turpentine, in half a gill of lukewarm water.

Experiments Illustrating this System of Feeding.—It is very desirable to know with some precision what gain in weight should be counted upon in feeding. I find that with the amount of grain above mentioned, the average quantity of hay consumed is rather less than above one and a half pounds per head per day. When sheep are fed three months, the total quantity of grain consumed I reckon equal to 2½ months at one quart each per day—two months of the three being at this rate, and the first month, which is consumed in getting by degrees up to full feed, not averaging more than one pint each per day.

The following is the result of an experiment tried in 1860, with thirteen sheep, each accurately weighed at the dates specified:

	Weight Jan. 3d.	Weight Feb. 3d.	Gain.
No. 1. Ewe, ...	235 lbs.	253 lbs.	17 lbs.
2. Wether, ...	242	252	10
3. do.	235	250	15
4. do.	226	236	10
5. Yearling ewe,.	202	219	17
6. Ewe, ...	213	237	24
7. do.	188	205	17
8. do.	181	185	4
9. do.	194	215	21
10. Wether, ...	178	193	15
11. do.	194	208	14
12. do.	183	196	13

13.	do.	179	192	13

Total, Jan. 3d, 2,650 lbs. Feb. 3, 2,841 lbs. Gain, 190 lbs.

Here were thirteen sheep, averaging 218 lbs. weight, Jan. 2, which gained an average of 14½ lbs. per head in thirty days. All the other sheep I was feeding were likewise weighed at both the above dates, and I subjoin the figures to show, among other points, that the larger the sheep, as a general rule, the greater the gain, and, in the case of the last lot on the list, how much this gain is reduced by lack of proper shelter, a deficiency in accommodations obliging me to keep these sheep (No. 9 on the list) in a shed upon a large open lot. The system of feeding adopted was the same with all except that the large sheep may perhaps have had a trifle the most:

No. of Lot.	Where Kept.	No. of sheep in the lot.	Total weig't Jan. 3.	Av. weight per head Jan. 3.	Total weig't Feb. 3.	Gain in 30 days.	Av. gain of each.
		Head.	lbs.	lbs.	lbs.	lbs.	lbs.
1.	Stable,................	13	2,650	204	2,840	190	14¾
2.	do, ...	18	3,077	171	3,302	225	12½
3.	Open yard and shed,.	83	12,450	150	13,105	655	8
4.	do. .	60	9,153	152	9,513	360	6
5.	Stable,................	40	6,037	151	6,377	340	8½
6.	Close shed,..........	70	9,592	137	10,042	450	6½
7.	Open yard and shed,.	77	10,522	137	11,106	584	7½
8.	do. .	73	9,913	136	10,407	494	6¾
9.	Shed and open field,	70	8,824	126	9,192	368	5¼

Total number of sheep, 504—average weight Jan. 3d, 143¼ lbs. per head—Feb. 3d, 150½ lbs.—average gain per head on the whole, 7¼ lbs. nearly. As the best lot of thirteen gained in weight twice as rapidly as the average of the whole, the importance is shown of selecting the *very best sheep* in purchasing for fattening.

The account current with one lot of the sheep I am feeding this winter gives a considerably better average increase in weight than the above, and also forcibly illustrates the value of ruta bagas in feeding. This lot of sheep consists of 300 head which reached my farm about Nov. 20th. At that time they were not weighed, but I think I may trust my long experience as often tested by the scales, to say that the average per head would have been from 120 to 125 lbs.—say 122. As to their value, I will not give their cost to me, but 8¼ cts. per lb. live weight, was the outside figure at which they could have been sold on arrival—and this price would have yielded me a very fair profit. As it would have been simply a profit on purchase and sale, and not on the actual feeding of the sheep, it is fairer to exclude it, and give the money value of the sheep at the time of beginning to feed, calculated on the above basis, at $10.07 per head.

These sheep were pastured a fortnight, and I then begun feeding at the rate of one half bushel per day for the 300, at pasture, finally getting up to three bushels per day when snow came shortly after the middle of December. They were then housed, and the feed slowly increased until Jan. 1st, when it reached the full feed specified, of one quart per head per day. It consisted of half oats and half oil-meal up to about this time, (Jan. 20th.) I have now substituted Indian corn for the oats—about 2½ bushels corn unground, mixed with 300 lbs. oil-meal, constituting the daily food of the 300—valued at—

300 lbs. oil-meal, cost me $70 per ton, ...	$10.50
2½ bushels corn, at $1.90 per bushel,..................	4.75
8 do. roots—would sell for 37½ cts. per bushel, but this much exceeds cost of production,....	3.00
1½ lb. per day hay to each, 450 lbs.,....................	4.95
Cost of feeding 300 sheep per day,..............	$23.20

Or an average per head of about 7¾ cts. per day.

The sheep are gaining unusually well—a fact which I ascribe to the increased quantity of roots I am feeding them as compared with former years. With your permission, as these Essays are to be handed in on the 26th inst., I will hereafter submit the results with these sheep, and close for the present, hoping that the foregoing details may at least be useful to beginners in Feeding.

As to the value of sheep manure, and the effects resulting from its liberal application, I have never kept much other stock, and I may be permitted to add that twenty-seven years ago, when I came on to this farm, I cut from about 60 acres of land the first year 25 tons of hay. Year before last I cut from precisely the same number of acres, 100 tons, and last year (a season of severe drouth) 90 tons. When I begun on the farm I had one barn 32 by 40 feet, which held all the crops it produced. I now have one barn 44 by 52 feet, 20 feet posts; one shed 21 by 36, 18 feet posts; one 21 by 24, 16 feet posts; one 30 by 72, 18 feet posts, and one barrack that will hold 17 tons of hay. Summer before last they were *all full.* Two rules I laid down, never to lose sight of, when I commenced farming for myself: 1. To deal honorably with mother Earth—that is, to plow well, harrow well, give her all the manure I could, and never sell my straw, but keep it all for the land, and I assure you I could soon see an improvement. 2. Never to buy anything (except manure) I could possibly do without, until I had the money to pay for it—for manure, when it could be had, I was never afraid to run in debt. These two rules I have strictly adhered to, and must attribute much of my success to their benign influence.

Bethlehem, Jan. 25, 1865. JURIAN WINNE.

Appendix.

[About the middle of February we received from Mr. WINNE a statement of the results with the 300 sheep referred to above, which we are obliged to present in condensed form:

Estimated average weight of the 300 at this date. 150 lbs. per head—has been offered 13c. per lb., live weight,......		$19.50
Total amount of feed, exclusive of pasturage, is considered equal to 60 days' full feed at above rate, to this time—per head, ...	$4.64	
Money value, when feeding began,..............	10.07	
		14.71
Profit per head, exclusive of attendance, but with no allowance for manure,.......		$4.79

This gain, it should be remembered, is after selling the hay to the sheep, at the barns, at $22 per ton, the corn at $1.90 per bushel, and the ruta bagas at 37½c. per bushel; and, on the 300 sheep, considering the shortness of the investment, the profit is certainly a very pretty one. Aside from any rise in the value of sheep as between autumn and spring, it may also be remembered that every pound of additional flesh put on, adds to the value of the flesh which was there before.]

CORN AFTER BUCKWHEAT.

EDS. CO. GENT.—I see among the inquiries in the Co. GENT. of Feb. 9th, that D. McM., of Delhi, wishes to know your opinion in regard to planting corn after buckwheat. As the idea had been advanced here that corn could not be raised after buckwheat, we concluded to give it a trial.

Some seven or eight years ago, we broke up a piece for corn, and a part of it being very tough, we concluded to let it remain and sow buckwheat on it, which we did, and had a very good crop. The next year we plowed and planted the whole piece to corn, and had an excellent crop, and there was no perceptible difference between that that was planted to corn the year previous and that that was sowed to buckwheat.

We have tried corn after buckwheat several times since; and never have failed in getting a good crop. Now the secret of success may be what Mr. McM. will object to; but as it is the way we do here, on the Chenango hills, I will give it. We don't expect to get a *good* crop of corn without manuring in the hill with hen or hog manure.

The main point in fitting the ground, is to have it well plowed and harrowed; we then mark out in rows 3½ feet apart with a plow, and commence dropping manure, driving lengthwise of the rows, and taking as many as can be conveniently dropped at a time, dropping from 3 to 3½ feet apart in the rows. If hen manure is used, a good single handful to a hill will be enough, and if hog manure, from one-fourth to one-half a shovelfull, according to the quality.

The manure should be covered with about an inch of dirt, and the corn planted on that.

If Mr. McM. tries the above plan and does not succeed in getting a good crop, his experience will not be like ours. M. E. MERCHANT.

Guilford, Chenango Co., N. Y.

Agricultural Education in New-Jersey.

With the numerous institutions in process of organization under the Land Grant of Congress, for the promotion of Education in Agriculture and the Mechanic Arts, the question of what kind of Education is best suited to the wants of our farmers seems likely to find its gradual solution in the actual experience of instructors and pupils.

One of the first schemes of education put forth is that received some weeks since from the "Rutgers Scientific School," connected with Rutgers College, New Brunswick, N. J., to which institution the revenue of the Public Land Fund was appropriated by the Legislature of that State. The terms of the appropriation were that the interest of the fund should be "devoted wholly and exclusively to the maintenance, in that department of Rutgers College known as Rutgers Scientific School, of such courses of instruction as (including the courses of instruction already established) shall carry out the intent of the Act of Congress."

Under this act the Trustees have accordingly purchased a valuable farm but a short distance from the College, and are taking measures to provide also a large Chemical Laboratory for the use of the students in Chemical Analysis, Metallurgy, and Chemistry applied to the Arts and to Agriculture; and for general Lectures in experimental science; an Astronomical Observatory, furnished with all the needed instruments and appliances for practical study; rooms and fixtures for the study of Mechanical and Civil Engineering, Draughting, &c.; and accommodations for a large Museum in which the Geology, Mineralogy Zoology and Botany of New-Jersey can be fully represented and illustrated.

The course of study decided on, with the approval of the "Board of Visitors of the State," includes two divisions—embracing I., Civil Engineering and Mechanics, and II., Chemistry and Agriculture. It is designed that each of these courses should occupy three years—the studies of the first year, which are to a great extent preparatory in their nature, and many of those included in the second and third years, being common to both courses. These branches are equally necessary to a practical education for the civil engineer, the head-mechanic, the architect, and so on, and to the educated farmer—comprising the rudiments and practice of chemistry and chemical analysis, chemistry as applied to the arts, land and topographical surveying, architecture and draughting, mechanical philosophy, machinery and hydraulics, geology and mineralogy, botany, vegetable and animal physiology, the French and German languages, with some instruction in the more general subjects of history, political economy, &c., and military tactics as prescribed in the Act of Congress. The arrangement of these studies by terms, we need not give, but with the second term of the second year the agricultural course, strictly speaking, begins, as to which we copy the following schedule:

THEORY AND PRACTICE OF AGRICULTURE.

OUTLINE OF THE COURSE.

Instruction in the Theory and Practice of Agriculture will be conveyed for the present mainly by Lectures, except where suitable text-books can be obtained.

Opportunities for observation upon the College Farm will be given from time to time, and we hope to secure ere long, a cabinet of specimens and models by which the Lectures delivered may be illustrated and exemplified. During the Terms mentioned below, the following subjects will be treated:

I. Second Term, Second Year.—Agriculture, its *Principles*.
Its development and present condition as an Art.
Its connection with the several branches of science.
The economic requisites of vegetable growth, including soils, and the theory of manures.

II. Third Term, Second Year.—Agriculture, its *Processes*.
Tillage; plowing; the physical manipulation of the land.
Implements and Machinery.
Drainage, Irrigation, etc.
The Practice of Manures.
Farm Buildings—their construction and arrangement.

III. First Term, Third Year.—Agriculture, its *Products*.

1. *Farming and Farm Crops.*

The cereals, their cultivation, and management and uses.
Hemp, Flax and other commercial crops.
Root Crops and the Legumes.
Grasses and the care of Pasture Lands.
Rotation of Crops, and the use of Artificial Fertilizers.

IV. Second Term, Third Year.—*Products continued.*

2. *Animals and Animal Products.*

The Principles of Breeding and the various Improved Breeds.
The care of Domestic Animals and Fattening for Market.
Dairy Management, including Milk, Butter and Cheese.
Animals of Draught.

V. Third Term, Third Year.—*Products continued.*

3. *Horticultural Products and Rural Embellishment.*

The Orchard, including the Nursery propagation of Trees.
The Market Garden; forcing of plants and fruits.
The Vineyard; manufacture of wine, cider, &c.
Ornamental Trees and Shrubs, Landscape Gardening.

Either during the First Term of the Second Year, or subsequently, the study of Book-keeping will be continued with special reference to *Farm Accounts*, which is believed to be one of the most important branches of study, and opportunities of practice will ultimately be afforded the students in keeping the accounts of the College Farm. The study of *Botany* will also be continued with direct bearing upon the plants, useful or injurious, which the farmer most frequently meets. Some attention will also be given to *Entomology*, either as a separate branch, or in connection with those Farm and Orchard products which suffer most from insect depredators.

The lectures of the different terms are adapted as far as possible to the seasons when they can best be practically exemplified.

For College Graduates and other advanced students who may wish to take a one year course in Agriculture only, the lectures will be so arranged that such students can attend a double course during two-thirds of the year, thus:

1st Term—The Lectures numbered................ III.
2d do. do. do. do. .... I and IV.
3d do. do. do. do. .... II and V.

If we correctly understand the views of the Trustees in adopting the foregoing outline, it is their design to appoint a Professor of the Theory and Practice of Agriculture, under whose charge the different series of lectures above referred to will be arranged, and who will personally attend to such portion of them as his time and acquirements may permit; and that qualified and experienced associates shall be secured, who will deliver lectures, during the several terms, upon the special subjects in which they are particularly fitted, from long and extended practice, to convey instruction of the greatest benefit to the pupils. These will be men engaged in other avocations, who could not be induced to abandon them, but who could devote a term, or part of a term, in each year, to lectures upon their respective specialties—thus enlarging and strengthening the college corps of lecturers much beyond the practicable limit of its means if all were permanently members of the Faculty, while at the same time enabled to give precisely the sort of information required by students. It is thought, moreover, as above indicated, that a course embracing these lectures, with perhaps some other of the more important branches of study, may be easily adopted, to necessitate but one year's attendance, and designed to meet the wants either of that class already versed in the preparatory branches on the one hand, or of farmers more advanced in life, on the other, who would be unable to devote three years to a completer education, but who could doubtless derive great advantages from thus spending a single twelvemonth associated with others in the constant discussion of agricultural questions, as well as in noting down the facts and principles enunciated in the lecture room.

We place this outline thus prominently before our readers, not only that they may keep pace with the movements of such institutions, but also because if it shall elicit suggestions from practical men, or tend to show how such a course will be received by the agricultural public, the originators of this plan may be the gainers thereby. In Agricultural Education, as well as in that of any other kind, we are compelled to start with a proper foundation; there are rudiments of science in its various branches, with which the student must be thoroughly versed, before he is really competent to proceed farther. He cannot, for instance, learn to survey a field without some previous knowledge of mathematics; he cannot exactly determine the merits of an implement without knowing something of the strength of materials and the principles of mechanics; he cannot avail himself in practice of the teachings of the chemist, or detect the spurious claims and false theories of pretenders, without being conversant to some extent, with chemistry itself. Such preliminary demands the foregoing course seems fully calculated to meet.

Having advanced so far, he is very much in the position of the college graduate about to undertake the study of law, and already educated (so far as colleges complete the education they begin) in literature, the ancient languages, &c., and practiced in the habit of mental application. The law school conveys a general knowledge of that science, in its various branches, the theory and principles on which it rests, and a condensed summary of its results in practice. In the moot court, the student obtains some experience as to the application of what he hears, and still more in the wider field of observation furnished by the practice of the courts themselves, as he is able to attend them. He is prepared to commence practice himself, not only by the information acquired, but also by the discipline of study, and an acquaintance with the authorities to which he may turn for farther investigation. In an analogous manner, the course above laid down for the agricultural student, is suited to place the development of this art and a knowledge of its present position, before him—its principles and the writers whose works he may consult; and its practice, so far as this can be laid down in words. The discussion in clubs or societies, of agricultural questions involving the teachings of instructors, together with the observation of what takes place on the college farm, supply very nearly what the law student has in the moot court, while visits from time to time with leading farmers in the vicinity, illustrate for the one, what the other seeks by visiting the halls of justice.

Such an agricultural course, therefore, appears to be at least a practicable beginning, out of which, as developed by farther experience, we trust may at length grow that fuller and better education for the farmer so long hoped for and so ardently desired.

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The Maine Farmer.—Dr. N. T. True of Bethel, Me., succeeds the late Dr. Holmes as editor-in-chief of the Agricultural Department of this excellent journal, and with the efficient aid of Mr. S. L. Boardman, so long associated in its management, can hardly fail fully to maintain its interest and usefulness.

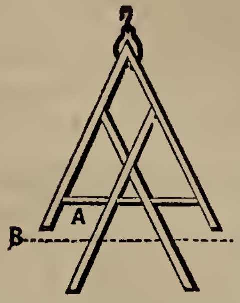

Fig. 1.

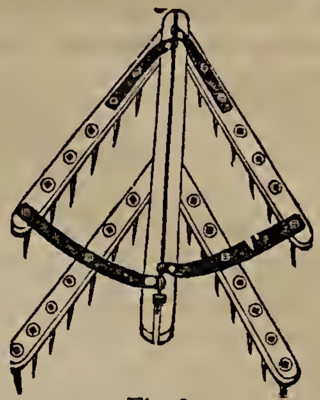

Fig. 2.

Triangular Harrow.—Will you give your opinion of the value for stony ground, of a harrow made according to this cut, (fig. 1.) I have heard them highly spoken of, but would like your opinion before making one. The square harrow does not suit me on very stony ground. If you are acquainted with this form, please give the size of timbers and length, and arrangement of teeth. I wish about twenty-four one-inch square teeth. I suppose the strip A. is bolted to the others. Should the middle timbers extend beyond the dotted line B? St. L. [Where there are frequent large stones and other obstructions, the pointed harrow like this will pass around them with much greater facility than the square harrow. The second timbers may extend beyond the dotted line B. If the surface of the ground is quite uneven, the Geddes harrow, (fig. 2.) with wings turning on hinges in a line parallel to the line of draught, answers an excellent purpose. Hanford's harrow (fig. 3.) has the front and rear parts both solid, with a joint or clevis between them, and fits itself better to uneven ground when crossing ridges or hollows, while the Geddes implement adapts itself better to the surface when running parallel with them. The timbers, if very tough, may be 2½ by 3 inches, or 3 inches square—otherwise 3 by 4 inches.]

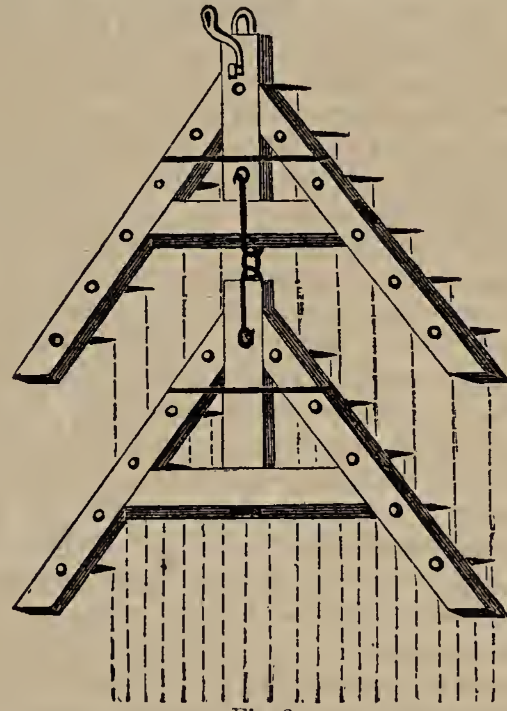

Fig. 3.

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New-England Agricultural Society.—The Annual Meeting of this Society was held March 2d. The Treasurer's Report showed unpaid bills, $2479.54, on account of the Springfield exhibition, which were at the expense of the guarantors, and will leave $1300 of membership fees still in the treasury. A nominating committee of two from each of the six New-England States was appointed, who reported the following list of officers:

President—Hon. George B. Loring of Salem, Mass.

Vice-Presidents—S. L. Goodale of Saco, Me.; Frederick Smyth of Manchester, N. H.; Henry Clark of Poultney, Vt.; T. S. Gold of West Cornwall, Conn.; Amasa Sprague, Cranston, R. I; William H. Prince of Northampton. Mass.

Secretary—Chas. L. Flint, Boston.

Treasurer—Isaac K. Gage of New Hampshire.

Also five trustees from each State. The constitution of the Society was amended to provide for the election of an assistant secretary and assistant treasurer to be residents in the State in which the Annual Exhibition may be located. On motion, the trustees were empowered, if in their judgment they deemed it proper, to hold an exhibition next fall.

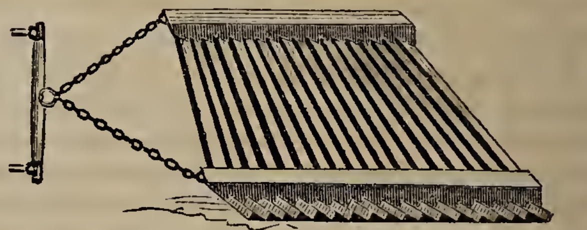
Thorough Stirring and Pulverizing the Soil for Hoed and Grain Crops.

Messrs. Editors—For the most successful raising maximum farm crops on the long cultivated soils of New-England, a thorough stirring and pulverization of the soil seems to be one of the necessary conditions. In the early settlement of the country, before the original fertility of the land had become greatly exhausted by long years of continuous cropping, and before the vegetable matters of the soil had become used up, good crops of corn, grain, roots, and hay, could be grown by skimming over the surface of the land with the wooden mould-board plow, which was followed, for the grain crop, with the triangular harrow with is wooden teeth. But in process of time, it was found that these primitive implements did not answer the purpose in preparing the exhausted and heavier and more compact soils for growing paying crops of corn, grain, &c. So these old time plows and harrows have passed away, and an almost endless variety of newer and more efficient implements have been substituted. Hundreds of plows and harrows, and scores of cultivators, for the better preparing the land for the reception of the seed, and greater ease of working and hoeing crops, have been invented and patented within the past forty years. Many of these have proved really useful and efficient implements, while, as a matter of course, others, when tried in the field, have proved nearly worthless. But upon the whole, such has been the progress in the improvement of our farm implements, even within the past quarter of a century, that their intrinsic money value to the farming interests of our country cannot well be over-estimated; and every year, new and useful implements are brought into notice, and valuable improvements made on many of those having been previously in use; this latter statement is peculiarly applicable to many of the reapers and mowers of different patterns and patents.

And here, Messrs. Editors, I beg leave to notice several farm implements not generally known, or, as yet, much in use among our farmers. I would farther say I have no personal interest to subserve in this matter, pro or con; but I will simply give a "plain, unvarnished statement," of such of them as I have used and found useful on my farm, and I have no doubt they would be found on trial, equally so, on thousands of other farms.

Shepard's Land Leveller.

The first is an implement invented and patented by Robert Shepard, one of the elders in the Society of Shakers in Canterbury, N. H. It is called by him a "land-leveller," and he might safely add, "and pulverizer," for it does both "level and pulverise" the newly plowed ground very nicely, and fast, too. The leveller, in form, is triangular; at the front part it is two feet wide—about seven feet wide at the rear end, and six feet long; joists, four inches square, are sawed diagonally, that is, from corner to corner; this leaves the joist triangular, or three square; there are four of these placed about eleven inches apart, like ribs on the rafters of a building; the rear joist is seven feet long—front one two feet long—the two middle ones' lengths to correspond—the flat sides of the ribs forward. One inch boards are nailed to the top side of the joists, after which the joists are sawed in the middle, and then the two parts are hinged, precisely like the Geddes harrow. It is drawn either by a horse or oxen, the same as a harrow, on old or stubble ground; I draw it crosswise the furrows, each rib taking up some of the soil and dropping it in any hole or hollow. Once or twice crossing the plowed land fills up the dead furrows, and leaves the ground level. It does not requre half so much harrowing to prepare the ground for sowing the grain as it does when the harrow is directly applied to the furrows. On inverted sod, I have the leveller drawn lengthwise the furrow. It fills up all interstices between the furrow slices, and leaves the ground in nice order for carting on and spreading the manure. When a farmer does his mowing by horse power, it is a matter of much consequence to have a smooth, level surface to mow over, and the use of this leveller does much towards effecting this desirable purpose. Much more might be said of the use of this implement, but I forbear. I should be very loth to be deprived of of its use on my farm. It is a cheaply made affair. I do not, however, know its exact cost. Perhaps Mr. Shepard would find it for his interest to advertise in the Co. Gent.



Cumberland Clod Crusher.

Another useful and cheap implement I have used, is known in England as the "Cumberland Clod Crusher." A plate or figure representing it, with a description, &c., I saw in the London Agricultural Gazette, a number of years ago. The writer said, "It is so easily constructed that any carpenter can make one. They cost 30s. to 40s., according to their size, and the quality of the wood employed. Perhaps the best size is six feet square. For this size, two, three, or four horses are used, according to the state and character of the soil, and the weight applied." This crusher, it was stated, was more effective in clod crushing than the vastly more expensive Crosskill's crusher.

From the description and plate, I made one of these crushers last year, and find it a very efficient implement, and will attempt to describe it.

I used two inch, seasoned, second growth red oak plank, eight inches wide. I took for the sides two pieces of the plank about five feet long each, on one edge of which, every seven inches, I sawed down two inches, scarped from the saw-cut back seven inches, so that the edge of the plank presented an appearance similar to the teeth of a saw-mill saw. The bottom of the drag was made of plank, eight inches wide, and four and a half feet long, spiked on to the side pieces, so that when completed the bottom part resembled clapboarding. The forward plank slopes high up to the top of the sides to prevent the soil from dragging. The crusher is drawn by a chain made fast to the forward end of the side pieces.

The English statement says it can be made at a cost of 30*s.* to 40*s.*—that is from $7.50 to $10. The plank for mine cost 50 cents, and I made it in less than half a day. If I had taken it a mile to a shop where there are circular saws, I would have made it in two hours. Beside the plank, I used 28 five inch spikes. However, the English crusher has strips of hoop iron nailed upon the wearing edges of the plank, so as to prevent chafing, which probably is a good plan. The weight of mine, when completed, was 220 pounds, and a pretty good load for one yoke of oxen to draw over the newly turned furrows.

The last of August, I turned over a field of timothy sod land. In consequence of the severe drouth we had, the land did not plow so well as if it had been moister. I put on the crusher and after going over the ground, it looked almost as smooth as a new sown onion bed. The manure was carted on and spread, and the crusher again passed over, which ground the manure very fine and even. The land was then well worked with a heavy cultivator, wheat sown and then harrowed. On a portion of the field I again used the crusher, and on the other a roller. The wheat came up and grew finely, and when the snow came it was altogether the best looking and evenest piece of winter wheat I have ever seen. I also find it a capital thing to press down the snow about my buildings, and breaking out roads, &c.

It is my impression, that this crusher is a much more efficient pulverizer of a hard lumpy soil than a common roller. In the Co. GENT. of April 21, 1864, Old Hurricane gives us his experience in preparing his land for a root crop. The land was plowed in the fall, and twice in the spring, and four times harrowed to fit it for turnips—"then drills opened and heavily manured in drills, and after the seed was sowed, will you believe, it took two men nearly two weeks with mallets, to break up the lumps, and the lumps were so hard that it took four to five hard blows to break them," and the crop proved a failure. Now I think if O. H. could have gone over his lumpy soil two or three times with this Cumberland crusher, his lumpy land would have been reduced to a fine tilth with less than one-quarter of the labor he expended, and that he might have grown a fair crop of turnips.

As there is no patent right about this crusher, each and every farmer that wishes, can make and use it, without 'let or hindrance.'

Nutting's Root Cleaner and Cutter.

The scarcity and high price of cattle feed this winter, in most sections of the country, we think will stimulate many farmers to go more largely into the culture of roots hereafter. One serious objection in the minds of many farmers, is the labor of cutting the roots fine enough to feed without risk of the stock getting choked. To cut up a hundred bushels of roots with a shovel or spade, is no trifling job, as the elbows of myself and grandson know by practical experience. Having got sick of this mincing turnips for my sheep and cattle, I sent express to R. Nutting, Esq., Randolph, Vt., to forward one of his "Root Cleaners and Cutters," which arrived in due season, and we have had it in operation for some weeks, to the entire satisfaction of all parties concerned, both in the house and in the barn. The root cleaner is a valuable addition to the cutter, as the soil sifted from the roots testify. I do not see how the cutter can be much improved.

We are looking with much interest for the appearance of the Premium Esssays on the Culture of Turnips, in the columns of the Co. GENT. This machine of friend Nutting's, we think will remove much of the objection to the culture of roots for cattle feeding, in the minds of all those who may be so fortunate as to provide themselves with one of them, for they are efficient, durable, self-sharpening, and there is little liability of an animal becoming choked in eating the minced roots.

The Universal and Conical Plows.

The improvements in plows have kept pace with most other farm implements. Of the great numbers I have examined, I think, on large farms, the "Universal Plow" with its dozen different mold-boards, adapted to all kinds of plowing—deep or shallow, wide or narrow, flat or lap furrows, smooth or stoney land, &c., comes nearer perfection than any other pattern I have ever seen or used. The patterns for the various parts of the plow were made under the special supervision of Ex-Gov. Holbrook of Vermont, the bare mention of which is a sufficient guarantee of its being a No. 1 plow.

But it is a heavier plow than many farmers would like who only keep one yoke of oxen and a horse, because such farmers wish to do their plowing with their own team. There are great numbers of plows intended for such a purpose; among these is one manufactured (and patented) by Solomon Mead, of New-Haven, Ct. Samples of these were on exhibition at the New-England Fair, Springfield, Mass., last October. Dr. Holmes, of Maine, thus speaks of them—"Among the thousand and one other plows of all sorts and sizes and patterns, we notice one new to us, invented and exhibited by Solomon Mead, of New-Haven, Ct., called the Conical Plow. The concave or turning surface of the mould-board is made to fit or *fay* (as a farmer would say,) to the surface of a cone—the broad end of the cone supposed to be in front. The theory is, that this form gives an easier separation, and a more gradual elevation to the furrow slice at the first start, while the decreased size of the cone, and increased curvature of the mould-board, insures a perfect turning of the furrow, the rapidity of the turning being increased at the last end where the power is diminishing."

Mr. M. claims that his plow is constructed upon correct mathematical principles, and gives several reasons why farmers should use the Conical Plow.

Last fall I procured a No. 6 plow, suitable to be drawn with one yoke of oxen and a horse, for plowing greensward. I found it a very good plow for that purpose, as also for stubble ground, and also for ridging or turning two furrows together. In plowing corn-stubble, plowed about eight inches deep, and fifteen inches wide, completely inverting the soil, and well pulverizing it. I think the plow is well worthy the patronage of farmers. He manufactures several other sizes, all of which are moulded upon the same principle. Mr. M. can convey through the columns of the Co. GENT. (in an advertisement,) to the readers of that paper, a much better idea of its claims than I can give. At the New-Haven Co. Society, 1863, the Conical Plow received two first premiums, viz.: for best work, and best plow.

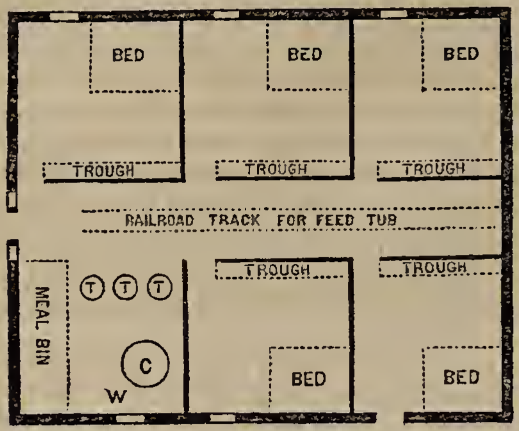
Corn Marker, &c.

The Co. GENT. of Jan. 12, gives us a description of an Improved Milking Stool, with illustrations. The young man who does the milking of my cows, has made one as described, and is very much pleased with it, but I am not sure as the wearers of crinoline would be. We do not think "Rusticus" has overrated the good points of his "improved milking stool." For his timely notice, he has our thanks.

In the Co. GENT. of May 5, 1864, we find an engraving and description of "Todd's corn-ground marker." One of our young farmers fitted up one last spring, and used it for marking out straight rows for his corn, potatoes, &c., and was highly pleased with its operation, finding it far perferable to his old three-toothed horse-rake marker. Some farmers open hills for their corn with a hoe, without any guide but their

PLAN OF A HOG-PEN.

Eds. Co. Gent.—In answer to your correspondent of Richland Co., Ohio, I send the following plan of a hog-pen, which I propose building myself next summer. If you think it worthy of publication, the public are welcome to it. The building is 36 by 30—which, after taking out four feet for the alley through the middle, and two more for the troughs, will leave six spaces 12 feet square, capable of accommodating 8 or 10 hogs each. One of the six is appropriated for a cooking apparatus, called Prindle's Agricultural Cauldron, made in Rochester, N. Y., and for sale in all large cities. Have used one for two years, and would not be without it. The food can be led by a spout from the tanks to the feed-box on a car. The troughs are one foot wide by 8 or 10 inches deep; and in front of each trough is a ladder-like arrangement, with spaces 12 inches wide between each round, for each hog to put his head through to eat; (hogs when weighing 250 or 275 lbs. can easily eat through a twelve inch space; if heavier than this, would probably need more room.) This plan I have tried for some years and find it does well, preventing all fighting during feed time, and giving the weaker ones an equal chance with the stronger. On each ladder is swung a trap-door, which may be fastened down with a bolt or button, to keep the hogs out until the feed is in the trough. In the corner of each enclosure is a box made seven feet square, and about seven inches high, for them to lay in, in which, if straw is put, they will always keep clean. I have used a pen something on the plan of this, but it is now too small for my purposes. This will easily accommodate forty hogs.



T. T. T., Tanks—C. Prindle's Ag. Cauldron—W. Wood.

I will add this rough estimate of the cost of such a building:

2,160 feet two-inch plank for flooring, at $20,......	$43.20
1,320 feet inch boards, for siding, at $20, ...	26.40
9,000 shingles, at $5 per thousand, ...	45.00
Sheeting-boards, rafters, and joists,................	25.40
Carpenter's work, including hewing timber.......	60.00
Total,..	$200.00

For this sum I am certain it could be built with us, but would, of course, vary in different places.

Niles, Mich., January, 1865. H. L.

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OSAGE ORANGE HEDGES.

I notice frequent inquiries, made by correspondents in your paper, for Osage Orange seed. I have a number of trees of twenty-five years growth, which produce abundance of seeds. I do not know whether the seeds in *all the oranges* would vegetate, but I have often seen the seeds sprouting in the spring from the fruit that was decaying on the ground. Since I have had a supply of roots, I have found it easier to grow plants from their cuttings than from their seeds. Cut the roots into pieces four or five inches in length, and plant them in beds as you would onion sets, and they will grow with as much certainty as willows.

The plan of trimming the hedge adopted by Prof. Turner, is the true one when the farmer has the time to do it in proper season; but I have adopted a plan which, although not so ornamental as his, makes a most efficient hedge, and the work can mostly be done in the winter. I cultivate the hedge well for about three years without trimming; then in the winter cut the plants off near the ground, throw them back on the line of the hedge, and beat them down well with a pole to make them lie close. Four or five times as many plants will come from the roots, and passing through the prostrate branches, will make the hedge impenetrable to any animal larger than a rabbit. The operation may be repeated once in three or four years, and you need not fear the depredation of unruly cattle. Jas. Dinsmore. *Boone Co., Ky.*

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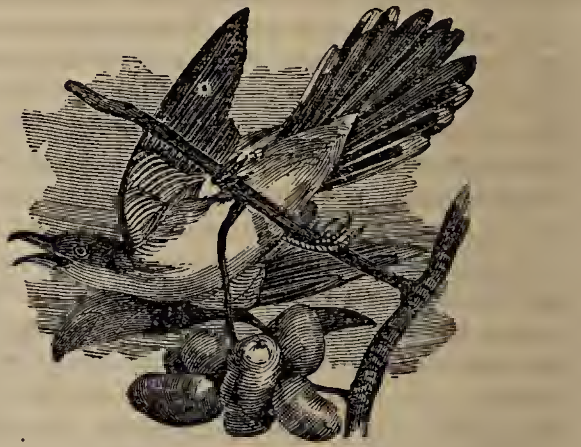

Yellow-billed Cuckoo.—*Coccygus Americanus.* Bonap.

The bird which we present to the reader is not very well known. This is owing first to its shyness and anxiety to conceal itself among the thick foliage of small trees; and second to its very equal distribution over the country. Other birds, as a general rule, prefer some one section of the country to any other, and consequently are to be found there in great numbers. But the Yellow-billed Cuckoo is rarely seen in any place in large numbers. A pair will choose a suitable spot for rearing their young, and there will they resort year after year. Their progeny, instead of breeding in the vicinity as is the case with most birds, choose a separate spot for this purpose. Thus it will be seen that they are an essentially solitary bird, so to speak, for it is rare to find more than one pair within a near distance of each other, except, indeed, during their migrations, when they assemble in flocks of considerable numbers.

The Yellow-billed Cuckoo enters the Southern States in March—the males arriving first and the females a few weeks later. About the last week in April they arrive in Pennsylvania, where they breed as well as to the northward, and they leave Pennsylvania in September to return to the South.

Their flight is rapid, horizontal, and is moreover performed with the utmost silence. When making their way through close bushes, they frequently incline their body to one side or the other, so as to show the underneath part as is represented in our figure.

The notes of this bird resemble the word "*cow, cow, cow,*" repeated eight or ten times with increasing velocity. Owing to this fact it is very frequently called the *Cow Bird.* Audubon states that the inhabitants of the northwestern part of Pennsylvania call it the *Rain Crow*, and that in Louisiana it is called by the French settlers the *Coucou.* J. P. Norris.

HOUSE GARDENING.

There are certain products of the garden which have become important in the household economy of every family, and the earlier they can be brought forward, the longer will be the season through which they can be enjoyed. Hot-beds are very convenient to start such plants, but as every family or every neighborhood may not see fit to start hot-beds, a simple way presents itself, by which all may have a supply of tomatoes and kindred plants, with a little labor, which will more than be repaid by the end gained.

It has become a custom with many within our knowledge, to take as many crocks or flower pots as may be necessary for the number of plants desired, and in order to have every thing ready in due season, to fill them with rich earth in autumn and set them in a safe place, away from frost, for spring use. Early in March the pots are brought out, the seed sown, and the pots kept at a convenient distance from the stove to favor germination. When the plants are well started and the strongest has developed itself, all the others are taken from each pot in order to give it a chance for a full expansion. They should be exposed to air in favorable weather, to give them health and hardiness. In this way much better plants will be obtained than is usually found in the crowded lines of the hot-bed, where branches and roots of different plants are allowed to intermingle to the disadvantage of each other.

When the state of the season will admit of planting out in open ground, such plants will be large and strong. The roots by this time fill the pot, and ask more room for expansion. By allowing the earth to become moderately dry around the margin of the pot, they may be taken out with the ball of earth adhering to the roots, and introduced into the well prepared soil without the least check of growth, and will at once push forward with renewed vigor.

Preparation of soil before transplanting.—All garden soil should be deeply and thoroughly pulverized before the crop for the season is introduced, while the manures applied should be adapted to the plant to be cultivated. Tomatoes do best with quick operating manures; that from the hen-house is admirably adapted to their taste. Last season we fed a lot of plants with ammoniated Pacific guano, and found its effects excellent. Caution must be used, however, in the application of either of these manures. If they are placed too near the roots of plants, they are too hot for them, and injure rather than benefit. We have known instances where, from their burning qualities, they destroyed them. When applied they should be well mixed with the soil, and they are then beneficial to any crop. W. Bacon.

Richmond, Mass.

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THE KITCHEN GARDEN.

BY A HOUSEKEEPER.

Celery.—For early use have plants in a hot-bed; for later, sow in a cool spot in April.

Transplant your plants in June, in rows 5 feet apart. The trench or row in which you transplant should be well manured with old well-rotted compost. We have succeeded well with celery planted in the row in which it is intended to stand. Shade and water your plants until well set.

Earth up your celery gradually as cold weather approaches—always in dry weather—and taking care not to bury the hearts. It may be pulled up and buried in sand in the root cellar for winter use.

Sweet Potatoes and Yams.—Put your seed in a moderate hot-bed the first of April to sprout. Have your ground prepared as directed for roots, and if convenient to mix river sand with the soil freely, you may consider you have the two prime requisites for a sweet potato crop secured, viz., looseness and heat. Put your plants in rows or hills, or ridges. Allow three plants to a hill, or place them a foot apart in ridges. Keep the plants clean until the vines cover the ground.

Harvest before frost touches the vines. We omitted to say that your hot-bed should be watered with blood-warm water every evening, enough to keep it moist.

Two bushels of seed ought to produce 100 bushels of potatoes. Poultry droppings are very favorable to this crop.

Tomato.—Since this plant has acquired double value by its capability of being preserved (by potting) entirely fresh for winter, it deserves double attention in cultivation. Raise plants in hot-beds for early fruit, and sow seed in April for later plants, or, if the spot where they stood the previous year has not been disturbed, you will be sure to find strong, hardy plants there, as early and abundant as from a seed bed. Plant in good ground, 4 feet apart, and give the plants support, or if that is not practicable, spread the ground beneath them thickly with clean straw, to prevent the rotting of the fruit from contact with the ground.

Chickens are very destructive to this vegetable. When winter approaches pull up the vines, and hang up in a warm cellar; all the half ripe fruit will mature. Ripe tomatoes cut with stems, and placed just not touching each other, will keep a long time.

Salads.—We comprehend under this head all greens used, raw or cooked. They are a luxury in any garden, and indispensable to the farmer on the score of economy and humanity, understanding the last to comprehend the duty of providing not only a sufficiency but variety of food, for those who labor (and in a wide section) for no other remuneration but care and provision for them. Turnips, horseradish, beets, and radishes, are the only roots we remember that produce leaves for this purpose. Small salads, lettuce, mustard, garden crops, spinnach, or any of the cabbage tribe, may be sown in good ground in extremely early spring, and again in early fall. Some of these small salads perpetuate themselves by the seed falling on their beds. A good crop of cabbage, embracing a succession of kinds, plenty of turnip and mustard, will afford you the desired supply for the whole year.

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REMEDIES FOR FOWLS.

What your correspondent C. P. B., writes in regard to fowls never willingly applying but one remedy for lice, namely, "dust of some sort," is very true, and why is it true? Because they have no other remedy to apply; and if they had they know not how to apply it. The best English chemists have pronounced keresene oil to be the most effectual and harmless remedy known for the destruction of parasites upon animals and fowls. I have proved it by experience; the lice die at once, and their extermination is almost certain.

I fully concur with him in his remarks on breaking hens of the inclination to set; two days' confinement is generally sufficient to overcome the incubating fever. I think it is by far the best and most humane remedy known.

A very valuable remedy for sick fowls is jalop. I have often tried it, and been astonished at the rapidity of their recovery from disease; it is very efficacious in many diseases, and its timely administration would save many a valuable fowl; fourteen to sixteen grains made into a pill is a dose for a good sized fowl.

Melrose, Mass. O. H. P.

MAKING MAPLE SUGAR.

Messrs. Editors—The season for making maple sugar is near; I send a few lines giving my experience in this branch of farming. Sugar is clear and white in its natural state, but is generally made red and sometimes nearly black by the careless manner in which it is manufactured. The sap buckets claim our first attention. Tin tubs are much the best. They can be stored in a much smaller space, are light to handle, and less liable to sour than those made of wood. The high price of tin will deter many from using them. Very nice sugar can be made however with wooden vessels, with proper care. Before using, they should be washed with hot water, and when the sugar season is over, give them a coat of red paint on the inside. They should be thoroughly washed before painting. This will give them time to dry and harden through the summer months. Treated in this manner, they are not so liable to get sour, and are more easily washed and kept neat. In tapping trees, use a half inch bit, never larger than three-fourths, because nearly as much sap will be obtained in the season as from a larger bore, and the wound will heal over more readily. At the commencement of the season it is well to tap the tree on the south side. Frequently the sun will thaw the tree and start the sap several hours sooner than when on the north side. As the season advances, if the hole becomes dry, the tub can be shifted to the north side. Bore the hole about two inches and a half to commence with, and after two or three weeks, drill an inch and a half more, which will make the wound four inches, which is about the proper depth in order to get the best quality of sap. When the weather begins to be warm, a thick slimy substance collects on the bottom of the tubs. This will certainly sour the sap and injure the quality of the sugar. I give the following remedy: Take a small broom corn whisk, and as fast as the sap is gathered, let one man follow with a pail of water, turn in a little, brush it thoroughly with the whisk, turn it out and let it drain a moment. If this plan is not practicable, leave a little sap in the tub, which is nearly as good as water. Sometimes it can be done after a rain storm when turning out the water. This operation should be performed at least twice in the season. At this late day, I presume nearly every farmer has good sheet-iron pans set on an arch, so we will not consume time in advocating so important an apparatus for making nice sugar. Soon after the sap begins to run, gather and boil it as fast as possible. If delayed too long, the sap commences to sour and the quality is injured. After boiling a few hours let it run down to syrup, turn it out, and begin with a fresh supply of sap. My opinion is, that when boiling all day without running to syrup, it becomes oxydized, turns red and injures the color. The syrup should stand a few hours to cool and settle; then strain through a woolen cloth, add milk, about one pint to sixteen quarts of syrup. After the scum is taken off, strain again through a clean woolen strainer, boil it quick and it will be soon ready to make an article which you will be proud to call maple sugar.

I formerly supposed the greatest quantity of saccharine matter was contained in the sap from the layers of wood near the surface of the tree. From carefully conducted experiments this theory was proved to be untrue. The following plan was adopted to test it: Selected a tree eighteen inches in diameter, bored a hole with an auger 1½ inches in diameter, two inches in depth from the inside bark; drove in a hollow wood tube for conducting the sap—commencing at the centre where the first incision left off; bored another hole with a half inch bit exactly two inches deeper into the tree, making four inches in all. Inserted a half inch spout through the hollow tube into the second bore very snug, so that the inside sap might not leak into the other. This tube was much longer than the first, so that in using two vessels side by side, the sap could be conducted beyond the first tub into the second. The sap from these incisions was boiled separately at the same time in two kettles on the stove, with the following results: Three and one-half quarts of sap from the first and outside bore made four ounces of sugar; the same quantity of sap from the inside bore made five ounces of sugar, each done to equal dryness. This result was so contrary to expectations that I tried the same process the next day with exactly the same proportions. The quantity of sap discharged by the large bore was somewhat greater than the small one, but not in proportion to its larger size. The benefits to be derived from this experiment would seem to be the following:

First, as a general rule, bore with nothing larger than a half inch bit, the wound healing more readily.

Second, bore a little deeper than usual, thereby improving the quality of the sap.

I also at the same time made an experiment with sap from the *soft* maple, in order to find out the comparative merits of the two species for producing sugar. The trees stood near each other; an equal quantity of sap from each tree was boiled down in separate vessels. The weight of sugar from both trees was alike—that from the soft maple being a shade darker, but very nice however. The maple tree is the pride and ornament of our Northern forests, and some of the pleasantest hours of my younger days were spent in the old "sugar bush," gathering and boiling sap, when the fashion was to roll up two huge logs near each other, string a number of five-pail kettles on a pole between them, and then punch fires all day, and far into night sometimes, occasionally turning over an empty store tub facing the bright fires, just as contented as ever Diogenes was in his palmiest days. I will close by advising my brother farmers to set out maple trees in large numbers wherever they will grow, thus conferring a two-fold benefit, beautifying the landscape with their green summer foliage, and the more beautiful gold and crimson tints of autumn, as well as the delicious sweet they will give to the generations following. Lawrence Smith.

West Worthington, Mass., Feb. 13, 1865.

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THE USE OF PLASTER.

Eds. Co. Gent.—There seems to be a great diversity of opinion in regard to the manurial qualities and benefits of plaster; some contending that it is merely a stimulant, and uncertain in its results; and that the extra growth it sometimes produces, is at the expense of future crops. Others contend that it is really a manure, and is a real benefit to the land for crops following its use. Now, my opinion is, after four years use and experimenting with plaster, that it is the best of the concentrated manures, and pays the best interest on the investment of any manure used. I have witnessed its use on a variety of soils, from a stiff clay, black prairie, gravelly, down to the poorest light sandy soils, with the best results. A great deal depends on the time of applying it. I am well satisfied, after numerous experiments, that it should be sowed early in the spring, before early rains are over, so that it will get dissolved. If sowed after the spring rains are over, it will be of very little or no benefit, or such has been my experience. It should be used at the rate of from fifty to one hundred pounds to the acre. M. J. Garel.

Volinia, Mich.

Recipe for Soda Crackers, Carolina Cake, &c.

MESSRS. EDITORS—I have some recipes which I think very good, which I will send you.

Soda Crackers.—Stir into fourteen cups of flour, two teaspoons soda, four of cream of tarter—after which rub in two cups shortening, lard or butter—mix with cold water, mold, and pound half an hour—bake in a quick oven.

Carolina Cake.—Two coffee cups white sugar, three of flour, one of sweet cream, two tablespoonfuls of melted butter, whites of five eggs well beaten, half a teaspoon cream of tartar, quarter of a teaspoon soda, one teaspoon extract of lemon, one quarter pound citron—put half the mixture into the baking-dish; slice the citron in thin slices, and lay them over the mixture pretty plentifully—then pour the remainder over the citron. I think this makes a nice and very cheap cake.

Suet-Pudding.—Take one and a half pounds flour, six ounces beef-suet chopped fine, quarter teaspoonful of saleratus, half pound of raisins—mix these together with water, as stiff as can be stirred with a spoon—put the mixture into a bag, securely tied, and boil one and a quarter hours.

To make of preserves instead of raisins, leave out the raisins and mix with the hand the same quantity of flour, suet, &c.; roll as pie-crust to the thickness of a quarter of an inch—then spread on preserves and roll the whole together, and put into a bag and boil as above.

Phelps, N. Y. MRS. A. DECKER.

Management and Profit of Poultry.

MESSRS. L. TUCKER & SON—Having become one of the subscribers and readers of your paper, I have been pleased with two or three articles under the head of poultry-yard, and have herewith ventured to send you a statement of the receipts and expenditures of my poultry-yard for the year 1861; also my mode of rearing the same.

I select (when I have determined on the breed) fowls which have all the marks of the breed well developed, for I believe that "like produces like," taking the medium sized ones, using none of the over-grown or small ones. Hens with a full, bright eye, full breasted, compact body, and stately carriage. For a cock I take a fowl rather coarser built than the hens, but not by any means the largest, but the middle sized, for the over-grown ones are too apt to lack the vitality which is very necessary to a good healthy chicken.

If I have selected hens in color darker than the breed seem to warrant, I take the opposite in the cock, for if you breed together either extreme color, you will change the plumage of your fowls if you continue to thus breed.

For instance, I can by picking out the lightest of Brahma fowls, in three years, get white fowls, or by the other extreme, in three years have them a very dark gray; but by always having care to in-breeding, bring the extremes together, you will have a fowl with that fine slender head, arched neck richly hackled, with black body of a rich orange white, black tail, which will show a dark green in the strong sun-light, with the lower line of the wing like the tail, with redish yellow legs (feathered or not, as the breeder may choose) all of which a breeder should be satisfied with, nothing less.

With a selection of not less than six or over ten of such hens, with one cock, I have a stock from which to select eggs for setting. And in selecting the eggs for setting, I take none but the average size, which are perfect in shape. For a nest in which to set the hens, I take a box fifteen inches square, six inches high. I fill the box up three or four inches with fine ashes or loam or chaff, using as little hay as is barely sufficient to form the nest. If too much hay or straw is used, before the hen shall have set three weeks, the nest will have become so deep in the centre as to allow the eggs to roll one upon the other, thus causing some to break, which not only causes the loss of the egg broken, but oftentimes so besmears the others as to prevent the others hatching, for you could as well hatch an egg which had been varnished as hatch one that had been coated over with the inside of another egg. With a hen which has set steady, I hatch nearly all the eggs, the chickens of which I never disturb till they are twenty-four hours old. Before or when I take them from the nest, I oil their heads with sweet oil, which destroys all the lice there is in the brood, for all the vermin there is on the hen, leaves and goes on the chicken as soon as hatched.

Here let me say, if you wish to set hens in the months of January, February or March, put but nine eggs under a hen, as you will get more chickens out of a given number of eggs than if you set more, and the chickens will come out one day earlier, and stronger besides. When I set hens in April or May, I set from eleven to thirteen eggs, according to the size of the hen. After which time I give a hen all the eggs she can cover with her feathers.

Chicken coops I construct 24 inches wide and 30 inches long, sides one foot high, with double roof, one end open, with a floor, which I keep well white-washed, and the floor of the same well supplied with saw dust and fine ashes, which I take care to remove once a week, replacing the same with fresh.

The floor protects the chickens from the effects of the damp ground, besides the lives of many chickens from the scratching of an over anxious mother.

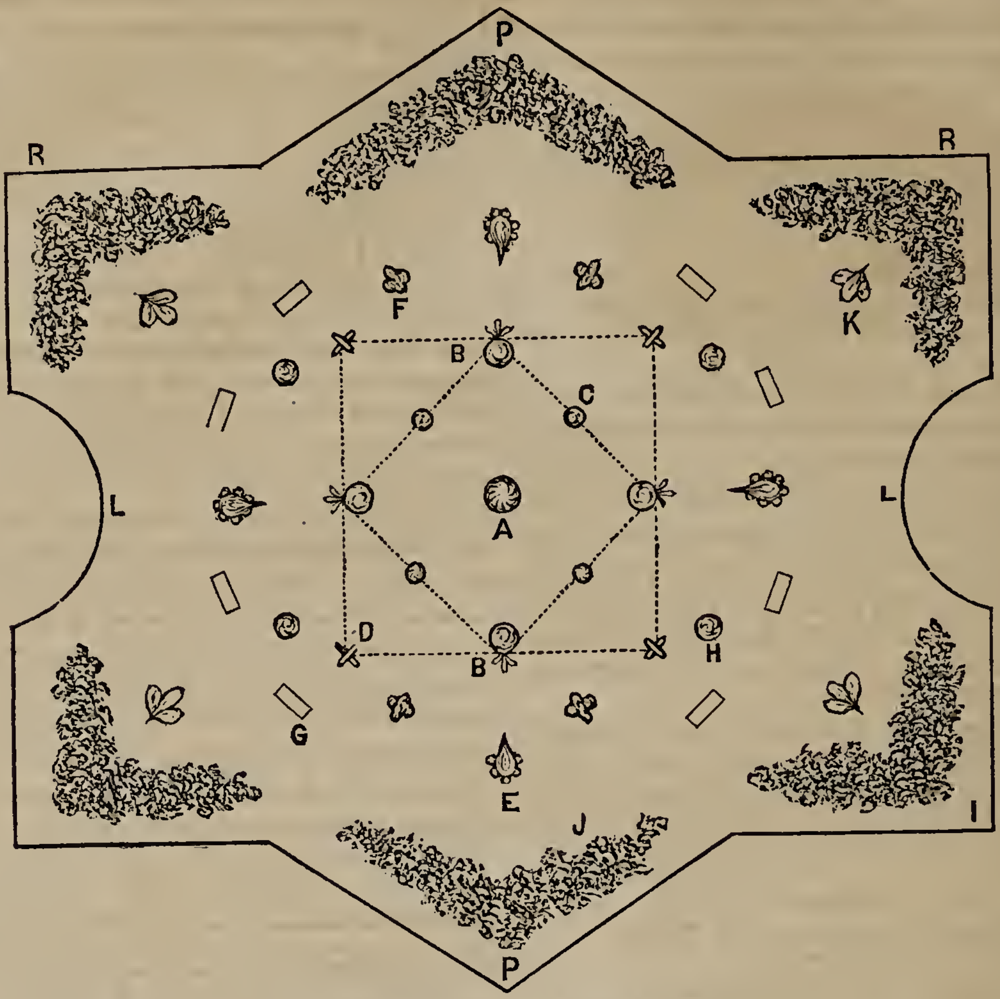
My food for chickens is cracked corn given dry, with plenty of fresh water. Wheat screenings are very good for young chickens, and warm mashed potatoes. But fine meal dough, will I think, cause more death in a lot of chickens, by crop bake, than all other casualties put together. I set, when I can, ten hens at a time, and give the chickens 20 in number to each hen, setting the balance of the hens a second time in this way. By setting five more I can get in six weeks 15 broods from 10 hens, making 10 hens bring up the chickens of 20 brood. The hens set the second time, generally hatch more chickens than they do the first time. Care should be taken to thoroughly clean the nest before setting the second time. As soon as the chickens can swallow, I give whole grain with scraps of fresh meat cut fine, with occasionally a meal of mashed potatoes, taking the hens away when they are four weeks old, then allowing the chickens to roam where they will. I take care that they have feed and water to go to whenever their inclination prompts.

With the above care, fowls will not fail to grow fast enough, and come to maturity early. I had a brood of 11 Brahma chickens 11 weeks and 5 days old, which weighed 34 pounds; also 4 pullets and 1 cock, (5 in all,) weigh at 5 months old, 28½ pounds. I sold one Brahma crower 8 months old, a few days ago, which weighed 9 pounds. My pullets generally commence to lay from 5 to 6 months old. In 1861 I had a pullet of the blue Leghorn breed lay at 4 months and 1 day old. In 1862 I had a White Leghorn commence to lay at 3 months and 25 days old, which is the earliest I have ever heard of.

With the above care no one need to ask his neighbor if keeping poultry pays a profit to the breeder. Aside from the profit in and of themselves, I will give a short experiment of mine with trees. I had four old Rhode Island Greening trees, which it was said by my neighbors had not yielded more than 20 bushels of apples in 20 years. They had got so they would not grow over two inches in a year, and presented a mossy and scrubby appearance. I enclosed them in a yard, and put in 36 hens; they remained there two years, in which time I grew wood from 10 to 15 feet, and in some cases limbs 17 feet long, with no other help but the hens' scratching and droppings. The third year I had succeeded in making all new wood, and that year *picked* 13 *barrels* (not bushels) of sound winter apples, besides all the wind falls.

The above I submit, hoping it may interest some one, as previous articles from others have me in perusing your paper, and I would call the attention of your readers to an article from the pen of D., in Jan. 26th's issue —Indian Corn and Poultry—all of which I believe to be true. I. K. FELCH. *Natick, Mass., Feb.*, 1865.

Madison County.—The Sixteenth Annual Fair of the Brookfield Agricultural Society, will be held on the Society's grounds in Clarkville, Tuesday and Wednesday, October 3d and 4th, 1865. A. J. S.



ORNAMENTAL FLOWER BED—No. 2.

BEDDING PLANTS AND ANNUALS.--No. 2.

An illustration was furnished in the former article, of a bed planted on the combination principle. The shape is circular, because the most common in use—but it is only desirable for small beds. A great variety of better shapes have come into use, many of which possess the great advantage of more convenient access to the plants without treading upon the soil. And when weeding and tying up flower stems are undertaken by the wearers of crinoline, the ladies will always vote for such formations.

Bed No. 2 is an oblong; if a square is more desirable it is equally good.

A conspicuous object for the centre is of importance. Any of the following are good:

A.—Cryptomeria nana; evergreen; pendulant, like the Scotch Larch; (not always hardy.) Cratægus pyrocantha; evergreen thorn. Andromeda floribunda; a charming shrub. Striartia virginica; very handsome while flowering in August, but rather expensive.

Either of the above to be set out in the centre of the bed. At equal distances from the center shrub—

B.—Four plants of Wigelia rosea; a charming shrub, profusely covered in spring with showy blossoms, but requires frequent and judicious pruning to keep in good shape. These are to be planted not less than four feet from the centre shrub, (midway from stem to stem,) and the Wigelias must not be allowed to crowd on the centre.

Close to each of the Wigelias, *in front,* so that the long flowering stems may reach to the ends of their branches, plant

Delphinum formosum; the best of all hardy blue perennials—(5 cents worth of seed sown in Feb. in heat, will produce 30 or 50 plants, most of which will bloom in August, but small, compared to plants raised the previous year and set out in October.) These bloom finely in June and repeat in the fall, if the flower stems are cut down immediately after the first blooming.

C.—Four plants of Hollyhocks; these take high rank now in England as prize flowers, having been vastly improved of late years. I have grown them from seed, nine out of ten double, and nearly all perfect blooms. But fine seedlings should be propagated at the end of September, by division of the roots, using pots of light porous soil. Set these in a cold frame, and shade from the sun till the plants recover and begin to push. They must be wintered in frames, and planted out immediately after frosts are over.

D.—Four plants of Coleus Verschaffeltii. This is a gorgeous variegated foliage plant, which grows to great perfection in the most sunny exposure, up to the first approach of frost, when it succumbs. Its rich crimson maroon leaves, tipped and blotched with green, have a most charming effect, and contrast splendidly with the surrounding shades of green and other colors. One plant preserved through the winter will furnish a score, if the shoots are struck in heat during February or March, when they root in six or eight days—should then be potted off in small pots, using a mixture of pounded charcoal, white sand and pure mold, in equal proportions. The two first are best to strike in. This plant cannot be too highly recommended, and may be obtained anywhere for 25 cents.

E.—Four plants of Salvia Gordonii: a brilliant scarlet and profuse bloomer. This variety is much more dwarf than the common sort, and can be kept in much better order.

F.—Four plants of cerise colored Geranium, Paul L'Abbe, the best of all high colored Geraniums out of doors and in the sun. (Should be plants struck in the fall and wintered in the house, so as to get a prominent effect early—small, purchased plants are not effective till late in the season.) Princess Alice is nearly as good; a full scarlet.

G.—Four plants of Linum tryginum; beautiful yellow greenhouse perennial—most easily propagated.

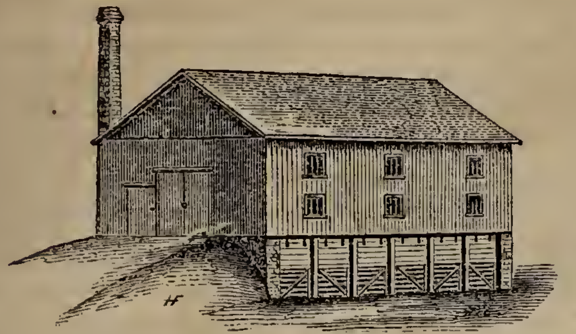
H.—Eight plants of Tree Carnations or Picotees—that is two each in rear of the Linums. The Monthly Red is excellent. There are also White, Pink and Purple selfs, all good, and white grounds, tipped Rose. The propagation of these would require a separate article—it is easy.

I.—At these four corners we require dwarf plants, and each may be different—1st. Œnothera Drummondii nana—Annual; a beautiful dwarf evergreen primrose (yellow.) Intermix with a few detached plants from seed of Phlox Drummondii—2d. Dianthus Hedweggi (from seed;) intermix with two or three plants of Saxafraga sarmentosea, (called Beefsteak plant,)—3d. Variegated Balm; a heavy, quick growing perennial. Intermix with a few dwarf French Marigolds—not too close—4th. Verbenas—Fox Hunter is the best I have found for braving the sun—a bold scarlet and strong grower.

J.—At these two points sow any of the following annuals: Linum grandiflorum rubrum, mixed with Blue Nemophila—or Collinsia Burtsiofolia, mixed purple and white—or Candytuft iberis Kermesina, among which drop three or four seeds of Lupinus subcarnosus.

K.—One Bouvardia at each corner, Leanthe, Hogarth, Oriana, Clara.

SCARBROENSIS.



PLAN OF A SHEEP BARN.

Eds. Co. Gent.—As long as the sheep mania continues, barns arranged especially for them will be built. I enclose with this a plan of a barn I am about building on a farm of 122 acres—it is arranged especially for sheep. I have used one like it, (only it was 50 by 80 feet, and the rack partitions ran clear through) for the past 16 years, wintering on an average 600 head of sheep in it, often times losing none, and but seldom a dozen, and they generally broken mouthed.

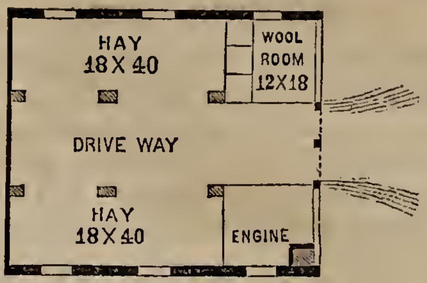
The plan enclosed is for a barn 50 by 60. It might be lengthened out the same way to a hundred or hundred and fifty feet. If the *ventilation* is good, I know that a thousand sheep can be kept under the same roof, as well as fifty.

It will be seen that the end of this barn is to the hill, and not the side. As it will have to be filled in some to drive into, it is arranged for a cistern at each of those corners, with a root-cellar between, and *it* will have a trap-door above with door into the basement. There will be a lead pipe to convey the water from the cistern to the troughs; there will be small boxes about six inches square and six feet long, running down to where the pipe leaves the cistern, where the cock will be to let the water out when wanted.

The wall at the end that you enter above, is sloped off at both sides, and the dirt filled up against it, so that the pipes are under ground till they reach the first trough, or rather above it, for there will be a long trough on each side of the barn over the tops of the yard fences, (which are only three feet high,) and over each yard trough there will be a small hole in the long trough, and gutta percha pipes to take the water down to the drinking troughs.

The basement will be 9 feet high, and the *gates* at each side, 4 feet high, with swinging doors on the sill above. These doors should always be left open on both sides of the barn, unless during a rain or snow storm from the north, when they may be closed, leaving the south open; if from the south, close those, leaving the north side open. They never should both be closed at the same time, nor at any time unless a rain, hail, or snow storm; no matter how cold, I should leave both open. There should be ventilators built up, one by each of the four posts, seen in the main floor, and on the opposite sides of the holes for throwing down hay. The basement can be used for six flocks, or by putting in light doors swinging on the joice over-head, it can be arranged for twelve flocks.

The main floor will be arranged on the left as you enter, for a four horse power, *Ericson engine, corn mill and root cutter;* on the opposite side a meal room and three bins, with outlets below, one for corn and cob meal, one for oats, and one for bran. The four bays will be used for hay and wheat.

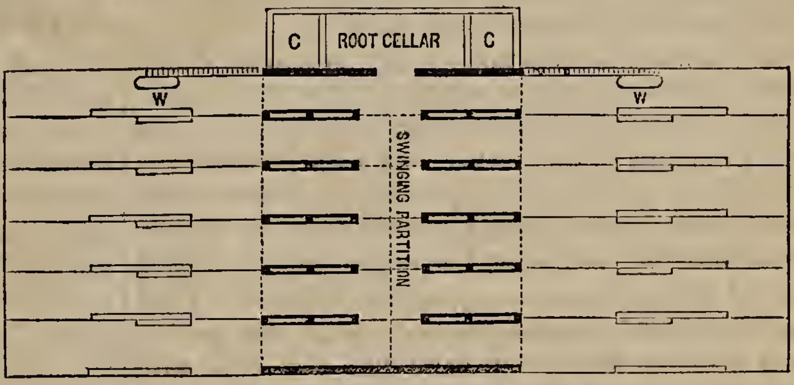


Main Floor.

Many farmers object to high barns, but when once you have your hay on one of these large forks, it is but little trouble to raise it a few feet higher. I have used one of these large forks for sixteeen years, and have often unloaded a ton and a half of hay in four and a half minutes, and thrown it up to the top of the mow, in a barn with twenty feet posts.

Some may object to the number of gates, but I think you can never have a thing too convenient.

Now a little as to feeding and care of sheep. My custom is to keep their yards and pens well littered with straw, and give them the range of the pens and yards at all times except during storms or while feeding, when the gate from the pen to the yard is closed, as the case may be.



Plan of Barn in centre, and yards each side.

C. C. Cisterns—W. W. Water troughs—5 ranges of racks in central part of barn, each division of which is 11 feet long—the yard grain troughs (longer,) and water troughs (shorter.)

At daylight they are shut up in their pens, and feed placed in their troughs in the yards of one-third cob meal, one-third oats, and one-third bran, at the rate of *two bushels* of this mixture to the hundred. While they are eating this, their racks inside are filled with wheat or oat straw, the gates opened, water put into their troughs, and they can go in or out till four P. M., when they are fastened into their yards and their racks filled with hay; sometimes clover, and sometimes timothy, when the gates are opened and they can go in or out till morning, unless it is very cold or stormy, when they are fastened in. If any practical shepherd can improve on this plan I would like to hear from him. J. B.

Zanesville, Ohio.

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Onion Culture.—Mr. J. J. H. Gregory, the well-known Seed-Grower of Marblehead, Mass., has published an excellent pamphlet on this subject, which is advertised in another column. There are few matters on which we have more frequent inquiry, and Mr. Gregory's experience is such that we may refer with confidence to this statement of its results, some extracts from which we hope hereafter to present.

MILKING COWS.

Cows should always be treated kindly, and as far as possible always have the same milker. A fractious man should not be allowed to handle a spirited cow. Kindness and gentleness are always best; beating and pounding should not be tolerated. If a cow or heifer persist in kicking under kind treatment, take a small rope and quietly fasten around the opposite fore foot, thence bring it over the back to hang by the milker; when she kicks again, without saying a word, draw her foot up to her body. You can now handle her as you please. She will struggle to release her foot, but to no purpose, and will soon crouch to the floor. Now let her get up again, and pet her a little. If she kicks again repeat the operation as often, and you will soon find she will not move a foot while you are milking, unless there is some irritating cause like sore teats or sharp finger-nails. P. M. Augur.

Middletown, Ct.

RAISING CALVES ON WHEY.

Messrs. Editors—Mr. Shattuck, of Chenango Co., has given your readers a valuable lesson on the subject of raising calves on skim-milk; and, with your permission, I will briefly describe what is considered the best plan to rear calves on whey.

In the first place the fact should be clearly understood that whey is less valuable than either skim-milk or buttermilk as food for calves or pigs; yet whey contains a good deal of milk-sugar, designed by the Creator as food for the young of the mammalia. Having this sugar in water derived solely from milk, as a basis of nutriment for calves, what addition should be made to restore, practically, the butter and curd removed in making cheese? With such restitution, the calf will get in substance new milk with which to form healthy blood, and grow finely.

Passing by the analysis of oat meal, the intelligent reader will hardly be ignorant of the fact, that healthy men and women have long been raised from childhood on oat meal porridge. Porridge of this kind is oat meal boiled in water and seasoned with salt. This meal from good oats, is richer in gluten or curd than wheat flour; and will, when cooked, not only make young children grow up healthy and robust, like the best specimens of Scotchmen, but accomplish a similar result in the systems of calves. Whey can easily be boiled in iron pans or kettles, and have oat meal stirred in to make a thin porridge, which calves will drink with best results when warm as new milk. Confident that this plan will operate to the satisfaction of cheese dairymen, I will venture a few suggestions on raising oats. The experiment of your correspondent E., Chester Co., Pa., who raised 86 bushels of oats per acre by the use of bone dust, is full of instruction for stock-growers. It tells of the lack of phosphates in the soil; and in that connection I would hint to the dairy farmers of Herkimer Co., that the State Census of 1845 credits them with 8,208,796 lbs. of cheese as their annual product; and now it has gone up to 17,000,000 lbs. Forty gallons of milk contains a pound of bone earth equal to one and a half pounds of bones with the gelatin not removed. Dairymen, intensify your tillage and husbandry by the purchase of the best phosphatic guanos, which grind to an inpalpable powder between the upper and nether millstones of uncommon weight. With this fine flour of bone earth, top-dress your pastures, meadows, and raise, with a little stable manure, large crops of heavy oats as food for calves. Not to raise these, when you keep some of the best dairy cows in the world, is rather discreditable to your patriotism, enterprise and agricultural attainments. D. Lee.

District of Columbia.

GARGET IN COWS.

As this disease is somewhat common when cows are giving a large flow of milk in spring, I give my experience. Having a valuable cow two years since, which gave an unusual quantity of milk, I found one night at milking, one-quarter of her udder had become very hard, and only yielded a small quantity of clotted milk. The remedy I used was this, which I had seen in an agricultural paper, viz., 8 drops of tincture of aconite dropped on a piece of bread and mixed with her feed.

In the morning she was much better, but I gave 4 drops more, and the night following found her all right, with about her usual quantity of milk. Since then I have tried the same remedy in one or two instances with equal success. P. M. Augur.

THE WAY TO BUILD A HOG-PEN.

In building a hog-pen, durability as well as convenience should be sought after; and all pens made of wood, however neat in appearance, when first built, are in a short time hard looking objects, and in a few years the work has to be done over again. Every man who keeps a pig wants a pig-pen, and every pig-pen wants a building attached to it, or every pig-pen wants to be attached to some building large enough to set a kettle or an agricultural furnace, and for storing pig corn overhead. No grain for family use should ever be put in, or over a hog-pen; hence the objection to a corn-house over a hog-pen. The building for common farmers should be about 14 by 18 feet, with ten feet posts, and a steep roof, that will give plenty of room over-head for storing the poor corn usually fed to pigs; also, it is convenient to store away rakes, scythes, hoes, cradles, and all light tools not needed in winter. Then on one side of this building, build your hog-pen; the building will form one side. The pen should be about 12 by 16 on the inside. Dig a trench about two feet deep for the foundation, and fill with coblestone, which will serve as a drain, and prevent the frost from disturbing the wall; then on this build a stone wall, laid in lime mortar, about 3½ feet high, leaving a door-way in the wall in the most convenient place for the gentry to walk in or out; then on the top of this wall place timbers framed together like the sills of a building. The timbers should go all the way round, well locked together so they will not spread; then on these timbers place your rafters; board and shingle as well as you would a house to live in, for you will have a hog-pen during your natural life-time; leave a door-way in the gable end to throw out manure and to throw in litter. It will be cool in summer and warm in winter. If large flat stone cannot be found handy for the floor, lay down hemlock plank flat on the dirt; they will last a long time, for they will always be wet—put in a cast iron trough and you will have no more trouble about a hog-pen for long time.

X. Y. Z.

APPLE ORCHARDS.

Will you give me your views and advice on the following questions: In setting out an orchard of ten acres to grow apples for market, what kind or kinds would you advise me to set out in this section (Niagara Co., N. Y.)—age of trees, distance apart, and manner of setting them out, &c.? Some prefer to set out quick and nice growing trees, and in a few years graft in them such fruit as they desire; contending by so doing they will have better trees and apples as soon. Many farmers think there will be no profit in fruit-raising in 10 or 15 years, on account of the thousands of acres which have been set out in Western New-York during the last few years—that when they come to bear, the market will be overstocked. What is your opinion? NIAGARA COUNTY, N. Y.

The best market varieties at present generally cultivated are the Baldwin and Rhode-Island Greening. These stand first on the list of most market orchardists, but others think that the Roxbury Russet for its long keeping and adaptation to spring marketing, will prove more profitable. The Tompkins County King is an excellent and showy apple and sells at high prices, but is less productive than the above. When fruit of very fine quality is more appreciated, the Northern Spy will probably take a high stand. There are several other varieties that may be added to the above, the value of which cultivators differ upon, such as Peck's Pleasant, Golden Russet, Fall Pippin, Seek-nofurther, Jonathan, Newtown Pippin, Hubbardston Nonsuch, Esopus Spitzenburgh, &c. Trees do best when transplanted when young, say two or three years from graft, not more. Thirty-five feet is a suitable distance asunder. Setting out "natural" trees will do where they happen to be on hand, and where the owner has not certainly fixed on the sorts; and it is also well suited to the northwestern regions of the United States, where severe winters frequently injure or kill trees worked near the surface of the ground.

With regard to markets 15 years hence, we cannot speak with certainty, but rather in relation to present management. Judging, however, from the past, from the rapid increase of population, from the inherent fondness of good fruit in all the human family, from the fact that fruit if not saleable is an excellent feeding for domestic animals, and especially from the fact that fruit on well-managed orchards, thinned and selected, will always bring cash readily, no matter how abundant poorer apples may be, we think that it will not be hazardous to plant more orchards—unless, as is generally the case, they are neglected or but half cared for.

Drawing and Spreading Manure in Winter.

EDITORS CO. GENT.—I have noticed articles in the COUNTRY GENTLEMAN, both from your own pen and from correspondents, advocating spreading manure on the surface this time of the year—that is, drawing it immediately from the stable or yard, and spreading on the snow. Now my own experience has proved that this is not the best way to apply manure.

Some three years ago this winter, I had a man with but little for him to do, and quite a pile of manure in the yard. So I concluded to draw it out as help was likely to be scarce, and I would do what I could towards helping along with the spring's work. I had him draw out about thirty loads, and spread on the snow where I had sown winter rye in the fall, thinking it would afford protection to the grain through the early spring. The ground lay fair, and was not much rolling. I also had him draw out about twenty loads and put in one pile in a field that I had broken up in the fall for corn. I had also in the past summer, immediately after harvest, spread about twenty loads on the meadow.

Now for the results. The snow that winter was on quite a body of ice similar to the snow now, and was taken off by a heavy rain, and with it the best part of the manure that I had spread on my winter grain. The ground was frozen and covered with ice, so that all the water run off, and could not soak in the ground. You could see the dark colored manure water standing along the fences and in the road for some time; in fact all the finest and best part of the manure was washed out by the rains and snow, and I could see very little benefit to the grain in the summer. There was no water running on the field only what rained on it. The manure that was drawn out in a pile, I found in the spring in the finest condition; it had not washed away a pailful, only what soaked in the ground where the pile lay. Nor did it heat, but stood nice and moist, and I spread it on the surface a few days before planting, and had a fine crop of corn. The manure I spread on my meadow after harvest gave me good satisfaction, and you could see to a foot where the manure was spread, in the color and quantity of the grass. Now from my experience, I do not like to spread manure on the snow. If you want to draw out your manure in winter, put it in piles where you want it in the spring. W. GOODRICH, JR.

Watervliet, Feb. 22, 1865.

Iron Dish Cloth---Iron Clothes Lines.

MESSRS. EDITORS—Like yourself and your "Constant Reader," I was once so ill-informed of the progress of the *fine arts*, as not to know what an iron dish cloth was. But seeing one in use at the house of a friend, I learned from a young Swiss gentlemen who had presented it to her, that they were in general use in his native country, and he had accidentally seen a cask full at an importers, which were unsaleable in New-York, and had become rusty, and looked upon as old iron. I procured a dozen and distributed them among my friends. They soon became bright from use, and are universally classed among those articles which "we wonder how we ever did without." These are made of rings of iron wire, No. 15, linked together, and are about six inches square. I counted fifteen rings on one edge. One outside row of rings is only connected with the other at each end and an inch or two in the middle, which makes two loops to hang it up by. Every kitchen maid who has scoured the inside or outside of a kettle with it, pronounces it better than scraping with a knife or scouring with cloth and sand. They are very flexible, and I imagine must be like chain armor, which I have read of but never seen. We also find it useful to put under a pot or kettle hot from the stove, when we wish to place them on a table. We have used ours two years.

There is another iron convenience I have used six years, and which is as good as ever, that I would recommend to house-keepers—galvanized iron telegraph wire for clothes lines. It never rusts, need never be taken in, never breaks down and lets the wet clothes fall to the ground and have to be rinsed again. I hope my experience may be of some use to the readers of the Co. GENT., to which paper I feel much indebted for valuable information on various subjects. M. S. T.

Rose Hill, near Balston Spa.

RAISING DAIRY COWS.

In many sections of the Eastern States lying adjacent to cities and manufacturing towns, the demand for large quantities of milk at favorable prices, has stimulated the efforts of farmers for the production of milk to such an extent that stock-raising has been sadly neglected. In the milk-producing districts of Massachusetts, farmers cannot afford to keep their calves long enough to make passable veal of them, but hurry them away the day they are dropped to the speculator, who knows how to prepare them in such manner that the unsuspecting laboring man will buy the cheap meat and take it to his kitchen.

A few years ago, when our dairies could be replenished with tolerably good milkers from New-Hampshire and Vermont, at moderate prices, this system was to some extent excusable; but since the great demand for beef for army consumption has turned the attention of breeders to beef-producing rather than dairy qualities, it has become impossible to purchase good milkers without paying exorbitant prices. Mark the change which has occurred in five years. The New-York Tribune of Feb. 25th, 1860, quoted good milch cows at $40 each, while the same paper, Feb. 25th, 1865, quotes them at $75@$90, and remarks that some are at $100, and even $130. No farmer can afford to buy cows of uncertain value as milkers, at these prices, when hay is worth $40 per ton and meal $2 per bushel, even if he receives fifty-two cents per can for his milk.

Working cattle may be produced elsewhere cheaper than here, and the purchaser is not so likely to be deceived in regard to their value, as their profitableness does not depend so much upon local circumstances as that of cows. But breeders and drovers have never taken special pains to furnish us with milch cows adapted to our wants, and they certainly will not do it now, when beef is worth $20 and working cattle $200 to $300, and when a large number of cattle breeders have gone crazy for sheep—hazarding more for a Merino buck than did Jason of old for the golden fleece.

We need in this section, above all others, a breed "to the manor born," of superior milking qualities, and adapted to rough pastures and severe winters. Such a breed can be secured if farmers will make a temporary sacrifice, and give to breeding the attention that is necessary. The manner in which it may be obtained was suggested in remarks by H. H. Peters, Esq., of Southboro, before the Hopkinton Farmers' Club.

Mr. P. remarked that at the commencement of his farming operations he was in possession of a very good herd of native cows, but in attempting to breed from them he was repeatedly disappointed. The progeny of some of his best cows proved to be quite inferior milkers. Not more than one in four was a valuable cow. He found that he had not paid sufficient attention to the qualities of the sire. He would advise those who desired to raise up a herd of valuable cattle, to select the best milkers and take them to a thoroughbred bull of such breed as they preferred. Cows to breed from should be well kept. He would rather take the poorest cows in the country, and put them on good feed for profit, than take the best and keep them ill. There had been instances in this State of superior animals from Thorne's stock, purchased by wealthy men at fancy prices, being so much deteriorated in consequence of neglect, that they could not be sold at the prices of ordinary cattle. On the other hand are the magnificent cattle of John S. Anderson of Shelburne, and Matthew Smith of Middlefield, Mass., which have been raised up from ordinary cattle by judicious crossing and superior keeping.

Cows should be kept well before they drop their calves, so as to strengthen the fetus as it is forming.

The best way to raise calves is to turn them out in a good pasture with a farrow cow. When the cold autumn storms come on, the calves should not be neglected. They should not be left to the insufficient shelter of the woods or the fence, but should have a good warm place in the barn, and be well fed. He was feeding calves almost entirely upon corn stover, not throwing it into the yard to be trodden under foot, (that was the way to make cattle wasteful, for calves, like children, would be frugal or otherwise, according to their training,) but cutting it quite fine and steaming it, and sprinkling a little bran upon it to give it a flavor. He had fed oil meal to calves with great success. In short, keep the best stock you can get, and keep it well. Upon keeping well depends your success. Geo. A. Adams. *Hopkinton, Mass.*

SORGHUM FOR FODDER.

I have seen several articles lately in your paper on the culture of corn for fodder, and I have been surprised that no one has tried sorghum for the same purpose. In the Patent Office Report for 1861, there is an account from the south of France, which states that forty-eight and a half tons (green, of course,) have been raised on one acre of ground. How much it will lose in drying, I have no idea; but this much I do know, that sown broadcast at the rate of two bushels to the acre, it will yield more feed than anything I have ever tried in the way of grass. I have tried it for two years and have found the yield truly surprising—I should think more than two tons of dry feed, but never having weighed it, I cannot speak positively, but am perfectly satisfied that it is far superior to anything I have ever tried, not even excepting *Hungarian grass,* so much lauded some years ago.

Sow it in good corn ground, as early as it can be put in good order; harrow smooth, the finer the better; and when the seed is sown, go over it with a bush; it must not be covered deeply, and if the seed is good, it needs no soaking. Let those who think so favorably of corn fodder try the sorghum, and I do not think they will bother with corn.

My horses and cows prefer it to any kind of feed I can give them; I have tried them repeatedly, and they will leave the best timothy for the sorghum and eat it up clean. The blades we pull from the cane we grow for syrup, are preferred by the stock to corn blades, and they will devour it with the greatest avidity. By sowing early, it can be cut with a strong cradle at the best time for curing properly, after being cut a few days. I have it tied up in bundles and cocked the same as wheat or oats. The quantity of seed sown to the acre prevents the stalks growing thick, which renders it easy to cure. I could make this communication much longer by amplifying words, but I have a particular dislike to windy articles on useful subjects, which causes me to be so laconic; all I wish are plain facts, told in as simple language as possible, so that all can understand. If this plan were adopted, there would be more room in your valuable paper for useful articles. T. V. P.

Mt. Carmel, Ohio, March 4, 1865.

Transactions N. Y. State Agricultural Society.

The Transactions of the New-York State Agricultural Society for 1863, forms a volume of over 800 pages. Its contents have been seldom if ever excelled in value, although necessarily including the usual amount of matter relating to the business proceedings of local organizations, only interesting as placing on record the history of their existence and progress.

A tabular statement shows that the aggregate receipts of the Society, from its organization and First Annual Fair in 1841, down to and including 1863, were $188,822.19 from Fair receipts, and $39,637.11 from other sources—total $228,459.30—or an average of about $10,000 per year, for 23 years, expended in the promotion of Agricultural Improvement. It would be interesting, but perhaps impracticable, to obtain the aggregate receipts of all other agricultural and horticultural associations in the State, during the same period, in order to show the sum total voluntarily devoted to these objects—an amount which could not be otherwise than exceedingly creditable to the public spirit of our farmers and fruit growers.

Several of the more important articles in the volume have been already noticed, as extra copies were furnished in pamphlet form—among them the addresses of Dr. Fisher and President Faile, Mr. Goodrich's paper on the Improvement of the Potato, etc., Mr. Peters' valuable report as State Assessor on the Agricultural and other Resources of New-York. the list of Short-Horn prize owners, &c. Dr. Hough contributes a paper on Agricultural Statistics. Mr. Cornell reports his visit at the Royal Agricultural Society's Great Show at London in 1862, as a Delegate from our Society, also at Rothamsted, the residence and experimental farm of J. B. Lawes, Esq. Dr. Parker presents a full article on the Propagation of Native Grapes, shortly to appear, we believe, in book form. Mr. Gould of Hudson, gives the results of his laborious investigations at the West into the growth of the Sorghum and Manufacture of Syrup and Sugar from that plant, and from the Sugar Beet. Dr. Fitch's Ninth Entomological Report is devoted to Insects Infesting Gardens, including the Northern Tobacco or Potato Worm, the Potato Beetle, the Garden Tiger-moth, the Corn Cut-worm, and the Nebraska Bee-killer. Agricultural Statistics are published from the counties of Cayuga, Greene, Herkimer, Livingston, Onondaga, Oswego, Rensselaer, Saratoga, Steuben, Wayne, Tompkins, and a part of Niagara.

From a correspondent, a statement appears of the number of Reaping and Mowing Machines manufactured at the city of Auburn during the year 1863—aggregating, at that point alone, 6,900 machines, at a cost of $180,000 for labor and $240,000 for material, and employing some 700 men.

A correspondent at Bengal, India, refers to the successful use of the Steam Plow in the Indigo growing regions of that country.

Reports are presented from Thirty-five County Societies. Only 21 of them give a statement of the receipts of the year, but we find that the aggregate of these twenty-one amounts to the respectable sum of about thirty-six thousand dollars, ($35,897.55,) and it would not probably be an over-estimate to say that the total sum raised by the local societies of the State in the year 1863 was above rather than under $50,000. Queens leads her sister counties in receipts, the aggregate of that Society being $4,795.75, while Albany stands next with $4,396.16. St. Lawrence reports $2,369.77, and Broome and Duchess each over $2,200. Reports are also given from thirty Town and Union Societies, and Farmers' Clubs.

There are many other points to which it would be equally interesting to refer, and from several of the articleswe hope to present extracts as opportunity permits.

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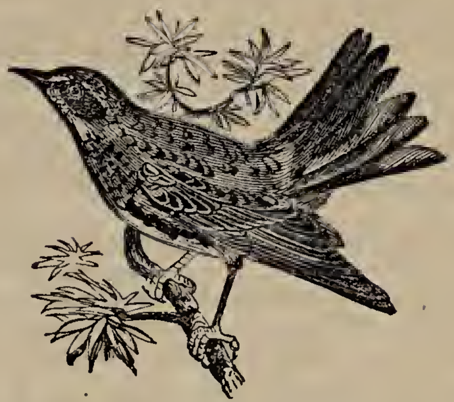

Yellow-rumped Warbler---*Dendroica coronata*. Gr.

Our figure represents, this week, the charming little bird which is known in the vernacular as the Yellow-rumped Warbler—in science as *Dendroica coronata*, Gray. It is sometimes called *Myrtle-bird*, owing to the fact that it feeds at one season of the year almost exclusively upon the berries of the myrtle, (*Myrica cerifera.*)

In Pennsylvania this bird is only a passing visitor, seldom remaining over three or four weeks at a time. Early in October it arrives here from the north. It remains here about three or four weeks, and then leaves us for the Southern States, where it spends the winter. It is to be found in Georgia even as late as the middle of March. About the last week in April it reappears in Pennsylvania. It only remains, however, for eight or ten days, and then it takes its departure for the north, where it breeds.

While passing through Pennsylvania the Yellow-rumped Warblers associate together in flocks of considerable numbers. Their food consists of insects and caterpillars, as well as the berries of the myrtle before referred to. J. P. Norris.

* *Audubon, Birds of America*, II. 1841, 23. (*Et sequenter.*)

CURE FOR A COLD.

Take a teaspoonful of fine salt in the mouth and swallow it as dry as possible, and then drink a half tumbler of cold water. This will relieve the cough if there be any. This is to be taken on going to bed. In some cases it may be necessary to repeat it two or three times.

Worcester, Mass. JOS. E. PHELPS.

Cure for Chillblains.

Take a flannel cloth and saturate it with petroleum or carbon oil, and wrap around the feet before going to bed. S. H. R.

DAIRY FARMING IN SUSSEX CO., N. J.

EDS. CO. GENT.—I see from time to time inquiries in the Co. GENT., of the "modus operandi" of making butter—and though you have published frequently copious details of the manner pursued in different sections of the country, I thought a few lines from the great butter and iron county of New-Jersey might not be uninteresting to some of your readers. I believe Sussex Co. stands unrivaled in the quality of her butter; this is owing probably more to the quality of her grasses and springs than to the manner of making the butter.

The cow being the machine by which the different grasses and grains are manufactured into milk, her selection is looked upon by all successful dairymen of the first importance.

We have a breed of cattle here, originally similar to those found in almost all parts of the country, viz., the Native or mixed. We have also the Ayrshire, the Durham, and the Devon; each here, as elsewhere, have their admirers.

The Native, of course, is the main dependence of our dairymen. She has been bred for years for the pail, and has arrived in many cases to a great degree of excellence. The form, size, and color, are all looked upon as second in importance to the yield at the pail.

The soil is generally limestone, and of course our wells and springs have "hard" water,—(contrary to Mr. Dickinson's teachings, that good butter cannot be made with hard water.) Our farms vary in size, ranging from fifty to three and four hundred acres, and occasionally much larger.

The rotation adopted is usually corn, oats and wheat, or rye and grass. That is, a hundred acre farm will usually be divided into five or six fields, and the manner of cultivating somewhat as follows: First year, corn, with most of manure; second, oats, and occasionally barley or flax, with no manure; third, wheat or rye, with light dressing of manure; fourth, and sometimes fifth, grass, usually clover with some timothy—clover (red) however is often sown alone, as many prefer it to timothy. Such a farm is usually expected to carry from fifteen to twenty cows, besides calves and working stock. We find two men and women usually sufficient to manage a hundred acres rotated in this manner, and upon the whole the most advantageous, as yielding the greatest return and maintaining the fertility of our soil. There are however exceptions to this rotation, some farms carrying cows almost exclusively.

The manner of managing the dairy, varies not a little with different farmers. The cows are expected to come out in fair or good condition in spring, and drop their calves in April or the early part of May; some preferring earlier, some later. Owing in a measure to quality of hay, amount of feed, &c., the calves from the choice cows are selected to raise, the balance pelted or vealed. After the veals are got off, comes the butter season.

The milk is usually drawn and carried to milk-room by all hands, there strained in tin pans holding about ten quarts, and allowed to stand from twenty to thirty hours, according to state of weather—usually until it becomes thoroughly thickened or loppered to the bottom of pan; then poured into a barrel-shaped dasher churn, tempered to about 60° Faht., (which however is usually done by the senses,) and churned for about an hour, with dog, sheep, or horse-power, according to size of dairy. When the butter has come, it is taken out of the churn, salted with about an ounce of pure Ashton salt to one pound of butter, worked and washed until the buttermilk is removed, when it is ready to pack. This is usually done in half-firkins or returnable tubs, holding forty to fifty lbs., until the end of May, when it is put into firkins, made of white oak, thoroughly scalded and soaked, holding about eighty lbs., until the heated season is over, when it is again put into tubs until the close of making, which is about the first of December, when the cows are allowed to go dry, dairymen generally thinking it too expensive to make butter in winter.

The buttermilk is considered quite an item with us, in connection with pork-raising. It is commonly run into a hogshead or vat from the churns, and allowed to thicken, when it is fed to pigs, causing a very rapid growth. Some care is required in feeding, for if fed too new it causes scouring.

The method I have adopted is this: I allow about one pig to a cow, preferring to have them dropped quite early. They are fed carefully until about six weeks old, when they are taken from the sow and fed milk until they get too large for the supply, when I commence boiling corn in a large furnace kettle; when thoroughly boiled mix with the milk. I find this feed to shove pigs faster than anything I ever saw or heard of. Dairymen should select a fine-boned breed. I have made a lot of pigs on this feed at ten months old, average a pound a day, dressed weight.

Andover, N. J. SUSSEX.

USE OF REFUSE SALT.

A few years since we found a merchant digging a hole to receive the refuse salt of his fish and pork barrels. We gave him a trifle to save it for us for manure.

We have since used it for cattle, for we believe they need salt. We sometimes rinse it with water, but we find that they eat it as well as clean salt.

A few days since in selling me a lot that he had saved, the merchant remarked that "he supposed it had lost all its strength." I was too anxious to secure a good bargain, i. e., a fair bargain, to controvert his opinion.

One of our closest, most saving farmers empties his pork salt into the brook, as he considers "it has lost its strength." If the pork is sweet, it is just as good as new for use again.

We have heard that beef-brine was poisonous to cattle. I think this has happened from the excessive quantity taken, rather than from its being poisonous. I use this for the compost heap, asparagus beds, or plum trees. G.

MORE ABOUT METHEGLIN.

I noticed in the last number of the COUNTRY GENTLEMAN of 1864, that one of your correspondents wished to know how to make good metheglin; and in a later number, a formula how to make this most favorite beverage, from the pen of Anna. Her method undoubtedly is a very good one, when small quantities are desired. I once had an opportunity of testing some that was very similarly made, that I thought was very excellent indeed; but as people's tastes are not all alike, I will add one that is intended to be made upon a larger scale than "Anna's," although it may not be any better, and perhaps not as good. Those that try both ways, will have a fair opportunity of judging for themselves. It is made as follows:—Take fifty pounds of honey, twelve gallons of water; mix in a small clean cask, and stir daily until dissolved; then add half a pint of yeast, and the decoction of half a pound of hops boiled in three gallons of water. Mix well and ferment. Any quantity may be made in like proportion. Like all stimulus liquors, age adds greatly to the strength of this wholesome, refreshing, and most delightful drink.

Prospect Hill, N. Y. C. R. C. MASTEN.

SOWED CORN---By John G. Webb.

In the fall of 1862, I wrote an account of a crop of sowed corn, which was published in the COUNTRY GENTLEMAN, and attracted considerable attention.

In that article I asserted that I had, by actual weighing, produced sowed corn at the rate of 36 tons per acre on upland, and by calculation demonstrated that 108 rods of such corn should support a cow 365 days in milk. At the same time, however, the cows, upon the feeding of which these results were founded, were receiving what was assumed as one half of their food from the after-feed of rich meadows. Reflection upon these facts has somewhat modified my conclusions upon the value of sowed corn fodder, for I should consider it questionable whether it were possible to obtain from two-thirds of an acre annually, the requisite *mineral* elements of a cow's bodily wastes and for her milk. As to the quantity of food, such as it is, the facts stand out, and cannot be gainsaid, and were confirmed immediately after by Mr. S. W. Hall.

In 1863 I produced another crop of ten acres upon the same land on which it grew the previous year, and when the State fair was in progress at Utica, I had the pleasure of showing my crop to several gentlemen from this State and Canada.

It was a magnificent crop, and received the encomiums it deserved. As it was a large field and not liable to the errors that belong to *averages*, I propose to give the results entire of the cost and products:

COST IN 1863.

Plowing 10 acres of flats	$20.00
10 loads of manure upon some thin places	10.00
Harrowing	10.00
30 bushels of seed (western corn)	30.00
Sowing, one acre per day, man and horse	15.00
Labor of women to follow the drill	5.00
Once cultivating	15.00
Cutting and binding and stacking	87.00
Hauling 120 loads	50.00
	$242.00
Interest on land	70.00
Taxes, &c	13.00
Total cost of 10 acres in 1863	$325.00

PRODUCT.

The crop could not be surpassed, as it seemed. A portion would average twelve feet in height, but probably ten feet would express the average of the whole field. It stood in rows two feet apart, and about two and a half inches between the stalks. Where they stood thinner than that, every stalk had more or less corn on it, but valuable as this may be, I consider its value more than compensated for by greater toughness of the lower end of the stalk.

We tried to run a mowing machine in cutting it, but it proved a total failure. It was cut with a corn knife in the ordinary manner, bound, and set up in a careless way, till it should dry out sufficiently to bear economical transportation.

We commenced cutting on the 21st of September, and had finished drawing and stacking on the 16th of October. It had to be drawn nearly half a mile, and had dried out sufficiently to enable us to draw about 75 bundles to a load. These bundles would average at that time about 40 pounds, making 3,000 pounds to the load, or 180 tons in all. It was drawn to a dry field contiguous to the cow stable, and there carefully stooked in about 600 stooks, each stook consisting of about 15 bundles set up by two men, and carefully bound by about three bands—stalks.

In these stooks the corn was preserved in a beautiful manner. Without souring, it dried away, assuming a straw color. I weighed the bundles at intervals, and about the 10th of December, when it had become perfectly cured, and might, without injury, have been piled up in a hay mow, it had lost about one half of its weight when drawn away, or about three fourths probably of its original weight, and weighed about 20 pounds to the bundle, 300 to the stook, or 9 tons to the acre.

Referring to the cost we have—

90 tons dry corn fodder, cost	$325.00
Or per ton	3.60

VALUE.

I was then feeding 71 cows, and from the date of the commencement of cutting, Sept. 21, to New Years, they received no other food except a limited supply of after-feed. At most, there was not enough of that for the entire feed of more than one third their number, for say one month, and calculation shows that 71 cows at 25 pounds per day for 100 days would consume 177,500 pounds—180,000 pounds constituting 90 tons. This estimate is farther confirmed by the fact than in the early part of the season, each cow did receive just one bundle per day, an amount which, as the season advanced, was increased to two or more.

Now these are facts, and if they do not teach the value of corn fodder as a standard and leading crop in the dairy districts of the United States, what do they teach?

There are some observations that seem important with reference to this subject.

SOWING.

For the main crop in the latitude of Central New-York, the 10th of June seems to be the correct time. You have to avoid two dangers to your crop, immaturity and too great maturity. If immature, the stalk is brittle. You cannot find suitable bands to bind it, and your crop is subjected to great loss; besides it is not so sweet or valuable as at a later period, and cannot be cured so well. If, on the other hand, it is too mature it becomes woody at the butt, and cannot be eaten. Without doubt, also, its saccharine qualities, are, after a certain point, greatly reduced. At the right point it contains a great deal of sugar, and may be eaten—the lower joints—with satisfaction by any lover of sweets. You must also steer clear of autumnal frosts if you can. All these considerations seem to point to about the date referred to for sowing.

FEEDING.

I can see no use in spending time, which is money, to cut sowed corn fodder for feeding. I was surprised to see the advice from P. to cut the green fodder in summer; nothing could be more useless; and as to cutting in the early winter, I could never see any necessity for it. As already stated, there is no waste from a crop of good corn fodder. *Utica, N. Y.*

The Annual Register.—"The ANNUAL REGISTER of RURAL AFFAIRS for 1865," edited by J. J. THOMAS, author of the "American Fruit Culturist," is a little volume of inestimable value to the farmer and gardener. The eleventh number, just published, contains 130 engravings, and useful and trustworthy information, hints, and suggestions respecting the more important matters connected with rural affairs. Published at Albany, by LUTHER TUCKER & SON.—*New-York World.*

THE CULTIVATOR.

ALBANY, N. Y., APRIL, 1865.

☞ In deciding the Awards upon the Essays received in competition for the COUNTRY GENTLEMAN Prizes, the committee to whom we submitted these essays, reported to us after examination that in several cases there were especial merits rendering two or more of them too nearly of equal value to admit of selecting one as in all respects superior to the rest. We therefore advised that in such cases the prizes should be properly divided between the contestants, as it would be manifestly unfair to pronounce a single one *the best*, when there was another which as a whole could not but be regarded as fully its equal. Since receiving the more formal report subsequently prepared, we have carefully reviewed it, in connection with the Essays themselves, and cheerfully coincide throughout in the conclusions as therein stated, which will be found below:

The Essays on Turnip Culture.

In selecting such essays, among the twenty-one presented, for the premiums, it seems proper to enumerate a few of the leading points of excellence:

1. Thorough previous preparation of the soil and eradication of weeds.
2. Copious application of best manures.
3. Ridge culture as lessening labor in hoeing and allowing cultivator to run nearer the rows—and on heavy soils affording the greatest product.

There are several other points of minor character, such as best varieties, home manufacture of concentrated manures, cheapness of harvesting. best modes of keeping, &c.

Nos. 7 and 9 appear to embrace more of these points in a distinct manner than the others, No. 7 being particularly valuable on the subject of manure, and in successful winter feeding of roots to sheep, making them weigh 100 lbs. dressed. No. 9 has a fuller description of varieties, and is more systematic in its arrangement. We propose therefore that the first prize be divided between these two essays.

No. 10 is a well written description (but less in detail) of the management of a very extensive and successful farmer; and No. 3, although deficient in horse and ridge culture, contains a statement of various experiments with manures which may prove valuable suggestions to others. We propose therefore that the second premium be divided between No. 10 and No. 3.

Many of the other essays also contain valuable hints which are marked for future publication. Among these No. 16 points out very distinctly the importance and practicability of raising early crops of the flat turnip for the late summer and early autumn feeding of sheep by folding—a suggestion of great importance to farmers who become deficient in feed at this time of the year, and who may thus, instead of sunburnt pastures, give their animals ten to twenty tons per acre of fresh succulent food.

In accordance with this report, we therefore award the First prize conjointly to the Essays respectively marked No. 9 and No. 7. The former, which bears the motto, "More roots, more stock; more stock, more manure; more manure, better crops"—was found to be written by R. GIBSON, farmer for Wm. Beebe, Northport, Suffolk Co., N. Y.—the latter by WM. ANDERSON, Rockford, Illinois. In a similar manner, the Second prize is divided between the Essays severally marked No. 10 and No. 3—the former of which is by J. C. SNELL, Edmonton, Canada West, and the latter by AUGUSTINE MATSON, Lysander, N. Y. Mentioned with especial commendation No. 16, signed "J. B.," and written by GEO. GARDNER, Shrewsbury, Penn.

Mr. GIBSON'S Essay is published the present week. The others will follow, with subsequent selections from those not sharing in the awards.

The Essays on Mutton Sheep.

The main object of sheep feeding being the profit yielded' the decision upon the merits of the several Essays submitted rests largely upon the success with which their several authors (1.) point the way to the profitable conduct of the undertaking—sustaining the assertions made by facts derived from their own experience, in all the details of management and feeding.

2. The characteristics of the several breeds offering for the feeder's selection, form a second and important point.

3. A third point consists in the elucidation of the question how far the turnip crop can be advantageously employed in this country, for feeding sheep both through the autumn and winter.

The Essay marked No 5 excels in the minuteness and accuracy of the tables of experiments, and in the precision of the directions given. In these, and other respects, it is evidently the result of long and careful experience on the part of the writer.

The Essay marked No. 1 is fuller in its descriptions of the merits of different breeds, derived from personal observation. Both No. 5 and No. 1 will afford considerable light upon the third point above referred to.

The Essay marked No. 3, although short and imperfect, contains a valuable suggestion in management by which two summers are obtained with one wintering—a point worthy of particular attention. No. 7 describes the mode of management to be adopted when the sheep are purchased in autumn for winter feeding only; and is evidently successful, although the precise amount of profit is not indicated. This mode of management, although not to be recommended generally, may prove advantageous under certain circumstances. No. 6, after giving some general account of breeds, furnishes many details for good every-day attention, which may be useful to inexperienced sheep-raisers. The other essays contain valuable matter, which is mostly superseded by the above mentioned.

There was some doubt as to the propriety of dividing the first prize equally between Nos. 5 and 1, and the second between Nos. 3, 7 and 6; but on a review of the whole, and with this explanation as to the prominent points of excellence in each, it has been concluded that the terms of the original offer will best be met by recommending the first prize to No. 5 singly, and the second to No. 1, with especial commendation to the authors of the essays numbered 3, 7 and 6.

In compliance with this suggestion, we award the first prize to the author of Essay No. 5, JURIAN WINNE, Bethlehem, Albany Co., and the second prize to the author of Essay No. 1, GEO. GARDNER, Shrewsbury, Penn.

The authors of the commended Essays are—No. 3, R. G. COFFIN, Duchess Co.; No. 7, E. SLEIGHT, Duchess Co.; No. 6, JAS. S. MCCALL, Wayne Co.

◆

Sheep Breeders' and Wool Growers' Association.—The winter meeting of this body was held at Syracuse, Feb. 22d, eliciting a fair attendance of members from distant parts of the State, and a considerable turn out from Onondaga and adjoining counties. The number present at the afternoon session may have been upwards of two hundred.

It was the general anticipation that matters bearing upon the Spring show, which it is proposed to hold, would form the principal business of the meeting. There was, however, no business whatever transacted, with the exception of the organization of the Executive Board on the evening of the 21st—the sessions on the 22d being wholly occupied by discussions, mainly of a practical and useful character it is true, but beyond the recommendation of a higher State tax on dogs, and one other point to which we shall allude below, having little reference to the immediate interests of the Association. It was verbally understood, although we believe no announcement of the kind was publicly given, that a liberal proposition for the holding of the Spring show was received from the citizens of Canandaigua.

The first resolution proposed for discussion was simply to the effect that all the different breeds of sheep should be duly encouraged by the Asociation; and it only elicited some very general remarks from Major Brooks of Wyoming, and one or two other speakers. The second resolution, endorsing the present wool tariff of the United States, failed to bring forward any body who had made the matter a subject of particular study, and was referred to a standing committee of the Board on Congressional Legislation. The third resolution, urging a higher dog tax as above alluded to, drew out several interesting statements, and was passed unanimously.

The pulling of wool, its cause and cure, was next introduced for discussion. The opinions expressed varied considerably. Tobacco water was recommended by Messrs. Avery of Fulton, Ennis of Wayne, Noyes of Ontario, and others, and mercurial ointment by Plum of Onondaga and Healey of Steuben. The President had known both to be successful. Mr. Lalor of Oneida suggested precaution as to the strength of the mercurial ointment applied, as it varies as sold, and one speaker had stated that he diluted it with three parts of lard, and another with only one. Kerosene had been tried, stopping the wool pulling, but leading to the occurrence of abortion. Avery of Fulton thought exposure the cause of the difficulty,—Champlin of Steuben, and Plum of Onondaga, that it is high feeding,—Noyes and others, that the heating of the manure had something to do with it, also imperfect ventilation,—Crandal of Madison, that it is a bad habit,—Munson of Seneca, that it is hereditary, and so on.

Rheumatism in sheep, its cause and cure, consumed the remainder of the afternoon session. Interesting statements were made by the President, Messrs. Plum, Avery of Cortland, Baker of Onondaga, Noyes, Brooks, Healy, Danforth and Wilcox of Onondaga, Burgess of Rensselaer, and others. Mr. Greer of Ohio, who attended the meeting, mentioned that the disease has not as yet, to his knowledge, appeared in that State, nor, with a single exception in Illinois, in any part of the West.

The evening session opened with a discussion upon the cause and cure of goitre in sheep—a difficulty which appears to have prevailed within a few years past extensively in nearly all parts of the State. Very little evidence was brought forward to show that it can either be alleviated or prevented, unless by the avoidance of everything either in management or breeding, which can tend to weaken the constitution and lessen the vital powers of the animal. And the great lesson of the meeting—devoted as it was, so largely to the discussion of diseases to which by almost unanimous assent the "highest bred" Merinos were pronounced far more liable than any others—seems to us to be clearly one of warning, above all things else, no matter what reputation an animal may have, what price it brings, or what fleece it yields—that it must be made the first question with the judicious flockmaster fully to satisfy himself that nothing in its descent or treatment should render its offspring lacking in that vigor and healthfulness without which all other good qualities are nugatory and useless. To listen to the sickening details given by one or two of the speakers, of a whole crop of lambs deformed into monstrosities of every kind—carted away on a stone-boat as soon as dropped—statements fully authenticated by the testimony of the President and others, of what had occurred within their own experience, was enough to satisfy any unprejudiced hearer that whatever is open to the shadow of suspicion, as likely to introduce or confirm such results, cannot be too jealously guarded against, or too strenuously denounced. And if the note of alarm sounded in these discussions has the effect it deserves, the first general meeting of the Association will not have been held in vain.

The later part of the evening was occupied with perhaps the most generally interesting of all the discussions of the occasion, upon the subject of crossing the different breeds for the purposes of farmers not engaged in breeding flocks of pure blood. To this question and the facts elicited, we shall recur hereafter, as it requires more space than is now at our command. The speakers gradually lost sight of the subject of debate, and turned to that of the shrinkage of wools, and the imperfect and slovenly manner in which fleeces are often sold. It was at a late hour that an adjournment was finally voted.

Since the above was written we have received a note from the President convening the Executive Board to meet at Canandaigua, on the 7th of March, at 5 P. M., when the arrangements for the Spring Show are to be matured. The questions likely to arise in making out the premium list, in appointing judges, and in other preparatory details, are such that a full attendance is particularly desirable.

Cheese Show.—Notices of various Shows of Cheese in Great Britain, suggest to us the propriety of submitting to the State Cheese Manufacturers' Association the idea of instituting a similar exhibition, to take place at the time of and in connection with the State Fair at Utica the coming autumn.

With the acknowledged importance, particularly as regards the foreign trade, of encouraging the manufacture of a superior article, nothing could be more legitimately within the sphere of that Association than such a Show, and with premiums of a somewhat liberal amount, together with the interest which the manufacturers themselves should take in the subject, we do not see why a display of unprecedented extent and excellence might not be made. The premiums might be made up by a special entry pre-paid for that object by those competing, or if the funds of the Association would permit by a direct appropriation for the purpose, as might be preferred; and we think we may undertake to say in advance that any proposition which may be submitted from the Association to the State Society would be most favorably received, and all the requisite space could be furnished or arranged for to suit the probable demand.

If this suggestion meets the approval of the officers of the Cheese Manufacturers' Association, we should be happy to have them communicate with us on the subject before the close of the current month. It may perhaps be expected, if the show is decided upon and due notice to purchasers given, that they would be present in sufficient numbers to dispose of all that may be exhibited on favorable terms.

Working Bulls.—This question has been brought before our readers occasionally by those who have successfully adopted the practice in this country. A writer in the Mark Lane Express advocates it from considerable experience. After describing his mode of breaking, he says:

"Indeed, it is remarkable how soon a surly bull is taught temper and obedience. A man of good common sense, courage, and firmness will very soon make the most surly rascal tractable and obedient, providing he is not actually vicious. A surly, ill-tempered, vicious bull is best fatted off, to be slaughtered; no danger ought to be incurred by teaching him his power for evil. I have said we always work the bull in bridle, collar, and cart-saddle. I don't know a better course. The bridle is a common cart-horse bridle, made to fit the head of the bull, being, of course, larger at every point; the frontlet and blinkers rather out of proportion, larger; the head-strap made to buckle. The collar and hames are peculiar in make and form, both being made to match each other. The collar is nearly three feet long, opening at the throat, where it is fastened by a strong strap and buckle; it is made very full, and is well stuffed or padded on the top (which in the horse collar is the bottom, being, as it were, worn by the bull wrong way up), so as to form a good firm cushion, by which the chief lift or pull of a bull is given. The sides of the collar are also more stuffed or padded than the ordinary horse collar, which, of course, makes the whole collar much broader, as well as longer."

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☞ The gratifying competition elicited for the Prizes offered by us for Essays a few months since, and the value of the various papers submitted, induce us now to present the following:

1. Rotation of Crops.—For the best Essay derived from the experience and observation of the writer, on the rotation of crops in general farm management, adapted to the practice of this country, including an outline of the treatment of the crops comprising the rotation—*Twenty-Five Dollars.* And, for the 2d best, *Fifteen Dollars.*
2. Fine Wooled Sheep.—For the best Essay on the Breeding and Management of Fine Wooled Sheep, including both flocks that are mainly kept for breeding purposes, and those of larger size, either at the east or west, where the wool clip is the great object, and economy in attendance an important requisite—*Twenty-Five Dollars.* And, for the 2d best, *Fifteen Dollars.*

Competing Essays to be sent to this Office by the 1st of June next. The privilege retained by us of publishing both the successful and unsuccessful Essays, in part or in full as advisable.

1. The subject of Rotation of Crops is one to which we pay too little regard. It is the hope in offering these prizes to draw out not only the experience of those who have given it especial attention, but also the results of any experiments that may have been instituted to throw light upon it. It is popularly held that some particular crops succeed poorly after others—how far are such impressions well-founded? What systems are followed by the best farmers of particular localities? Are these systems followed on well-established grounds, or are they susceptible of improvement? The subject is one of considerable scope, and in the proper treatment of it, a very valuable and interesting essay may be produced.

2. The Breeding and Management of Fine-Wooled Sheep may comprise not merely the practical points involved, but also the general characteristics of the sheep. Is a large or small sheep preferable as a wool-producer, and under what circumstances should the preference be given to either? What style of fleece in the long run will be likely to pay the best? And, above all, what system of treatment is surest to preserve and promote the health and vigor of the flock?

On both subjects we leave the manner of treatment much to the discretion of writers, as each will be likely to do best by following his own mode of thought, and stating whatever he can, of his own knowledge, that is appropriate in their discussion. Compilations from other writers, and articles already in print, are not desired; and, the object being purely agricultural and not literary, defects in orthography will form no bar to an award, although it will be of great convenience if competitors will have plain copies made to send us, the paper written on but one side.

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Raisin Grapes.—We have received dried specimens of the "Walter grape," a new variety raised by Ferris & Caywood of Poughkeepsie, N. Y., a seedling of the Delaware. The grapes were left accidentally in a drawer until lately found in this condition. They make a respectable raisin, but not equal to the imported, being less sweet, and with a rather thicker skin. We have not tested them with other dried specimens of the Delaware and other sweet varieties. As the grape crop will probably become a large one in a few years, experiments of this kind may be valuable, and a large amount of a good home manufactured raisin would find large consumption in this country.

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DIED—In New-York, on Saturday afternoon, Feb. 25th, Samuel Fleet, aged 65 years and 11 months, formerly publisher of The New-York Farmer, &c.

This announcement reminds us of the high esteem in which, years ago, we held Mr. Fleet, as an intelligent and earnest laborer in the field of rural improvement. In the year 1828 he commenced a rural journal at Huntington, L. I., which, after a year or two, he removed to New-York, where it was published under the title of the *New-York Farmer and Horticultural Repository.* Our first acquaintance with its pages was in 1831. Among its contributors in that year we find the names of Judge Buel, David Thomas, Noyes Darling, Alex. Walsh, Michael Floy, Wm. Wilson, Prof. Amos Eaton, and many others, eminent at that time for their efforts to advance the rural interests of our country, all of whom have since descended to the tomb. It was an honor to be associated with such men in so good a cause. Mr. Fleet, some two or three years afterwards, disposed of his paper to Mr. D. K. Minor, since which time we had entirely lost sight of him. It appears, however, that he was afterwards connected with the United States Farmer, and and later still, with the American Artisan. "He was a man of good ability, of unswerving integrity and an active christian character."

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Advice to a Young Farmer.—T. W. H., a young and inexperienced farmer of Baltimore County, Md., wishes advice on a number of subjects, which we give briefly below:

1. As to the propriety of purchasing more land adjoining. We infer that the 50 acres now occupied are imperfectly cultivated, and need under-draining, enriching, &c. It would be better to improve the present farm, as fifty acres cultivated in the best manner are more profitable than 200 badly managed.

2. Heavy clay, which holds water, becomes *gradually* lighter after under-draining. The solid subsoil is penetrated in a short time with seams and cracks, which allow the water to pass off—this, in the course of time, will effect much improvement. For fear there may be some peculiarity in the soil mentioned, it may be best to try the experiment first on a limited scale, but it should be done very completely and thoroughly as far as it goes.

3. We cannot advise our correspondent to borrow money until we know his ability in managing. Poor managers would sink all they borrow, while men of more skill and energy would soon be able to repay all.

4. The amount of time required to feed cattle by soiling, will depend on the number of animals, and also upon the facilities at hand. For a small herd, hand mowing will answer; but if the field is at any distance from the stable, a one-horse wagon, with a rack, should be used for drawing. (For large herds, a one-horse, or even a two-horse mower should be used.) One day's wilting in the shade will not injure the value of fresh cut grass, but animals dislike it after it has remained long.

5. The fact that the ground mentioned is too wet for wheat, shows the great importance of thorough draining. After the land is thus drained, and has become mellow, severe droughts will not affect the crops, instead of destroying them as at present.

Albany County Agricultural Society.—The annual meeting of the Society was held at the hotel of John McEwen, in Clarksville, on the 22d of February, 1865. In the absence of the President, Geo. W. Bender, Esq., one of the Vice-Presidents was called to the Chair. J. M. Bailey, the Secretary of the Society, made his report of the proceedings and condition of the Society during the past year. D. V. S. Raynsford, Treasurer, presented his books and vouchers of moneys paid out, accompanied with his report, showing a balance in the Treasury of $74, after paying off premiums and all other expenses. A committee of one from each town, and two from the city of Albany, were then selected by the representatives from the several towns and city to nominate officers for the ensuing year. The committee reported, and the following gentlemen were elected:

President—HENRY CALLANAN, Coeymans.

First Vice President—Martin Hallenbeck, Albany.

Vice-Presidents—Albany, Wm. A. Sumner, Peter E. Jones, Wm. B. Melick, John A. Goewey; Bern, J. D. Flansburgh, James A. Reamer; Bethlehem, Samuel Van Allen, Frank Shaver; Coeymans, Aaron Hotaling, J. Evory; Guilderland, A. V. Mynders, Martin J. Blessing; Knox, Charles Clute, John Crary; New-Scotland, Henry Creeble, Geo. W. Bender; Rensselaerville, Henry Waterbury, Azza Boughton; Watervliet, Jacob Henry, Jacob Messenger; Westerlo, Horace E. Robbins, Jacob A. Dorman.

Directors—for One Year—Jacob Simmons, Bethlehem, Wm. A. Sumner, Albany. For Two Years—James Slingerland, New-Scotland, Ira Boynton, Berne. For Three Years—Henry Hilton, Guilderland, Joslin Nodine, Coeymans.

Treasurer—D. V. S. Raynsford, New-Scotland.

Secretary—John M. Bailey, Albany.

The meeting was large and enthusiastic, and was characterized by general good feeling. The propriety of changing the place of holding the annual meeting to New Scotland was considered, but the Constitution was not amended. The new board of officers were selected with great care and attention, and will command the respect and confidence of the friends of agriculture throughout the county.

Washington County.—Pursuant to a call issued Feb. 1st, to those interested in sheep husbandry, a large number of farmers and shepherds assembled at the specified place, Wilson's hotel, North Granville, on the 18th Feb. LUTHER H. TUCKER, Esq., of Albany, who was present by invitation of the Committee, was called to the Chair, and BRYAN J. LAWRENCE of Fort Ann, appointed Secretary of the meeting. Edward Hicks, and L. M. Wing, of Granville, and Isaac V. Baker, jr., of Comstock's Landing, were appointed Committee on communications. The Constitution of the New-York State Sheep Breeders and Wool Growers' Association was adopted, with some alterations to meet county instead of State wants. On motion, George Kingsley of Whitehall, and E. P. Hardin of Hartford, were added to the Committee on communications to form a committee of nominations of officers for the "Washington County Sheep Breeders and Wool Growers' Association," and, after a recess, submitted the following report:

President—BRYAN J. LAWRENCE of Fort Ann.

Vice-Presidents—Gurdon Cook, John Barker, and Fred'k Braymer of Granville; Wm. M. Holmes, Greenwich; T. S. Steele, Shushan.

Secretary—Isaac V. Baker, jr., Comstock's Landing.

Treasurer—Hon. H. W. Beckwith, Granville.

Executive Committee—George Kingsley, Whitehall; E. P. Hardin, Hartford; James Braymer. Granville; L. M. Wing, Granville; Hiram Hotchkiss, Hampton.

The Committee also suggested that a gentleman be appointed in each town to aid in furthering the interests of the Association in his town. The nominations were approved and elected to hold for one year. Luther H. Tucker of Albany, was elected an honorary member of the Association, and a Town Committee chosen, in pursuance of the Committee's recommendation. A large show of sheep, in their fleeces, and a public shearing will take place in May, at North Granville, due notice of the date of which will be given. The board adjourned to meet at the same place March 9th, to transact business relative to the May show.

B. J. LAWRENCE, Prest.
Comstock's Landing, Feb. 22. ISAAC V. BAKER, JR., Sec.

The State Wool Growers' Association. — A meeting of the Board of this Society was held at Canandaigua last week, when it was decided to hold a spring show of Sheep on the Fair grounds of the Ontario Co. Ag. Society in that place, on the 9th, 10th and 11th days of May next. The premium list will shortly be published. On a careful review of the action of the Board in its arrangement, since his return from the meeting, Mr. TUCKER, Treasurer of the Association, has submitted his resignation. Any farther inquiries as to the Show, may therefore be addressed to the Secretary, D. D. T. MOORE, Esq., Rochester, or to either of the other officers.

Association of Breeders of Thorough-Bred Neat Stock.—The Seventh Annual Meeting of this body took place at Worcester, Mass., March 1st.

After disposing of the reports of the secretary and treasurer for the past year, the following officers were elected for the year ensuing:—

President—E. H. HYDE, 2d, Stafford, Conn.

Vice-Presidents—John C. Wood, Millbury, Mass.; George Campbell, Westminister, Vt.; E. N. Jameson, Antrim, N. H.; J. F. Anderson, Windham, Me.; Burditt Loomis, Windsor Locks, Conn.; E. D. Pierce, Providence, R. I.

Secretary and Treasurer.—Jabez S. Allen, East Windsor, Ct.

It was voted to hold the next annual meeting of the Association at Albany N. Y., in connection with the winter meeting of the New-York State Agricultural Society, and the constitution was so amended as to admit of this change.

Raising Corn for Fodder.—Having seen something said in your paper in regard to corn for fodder, and considering it one of the most profitable crops a farmer can raise, I herewith send you my method for raising it, one which I like best, after trying others, as giving the most feed from a given amount of land, labor and manure.

I turn over a piece of grass ground, as poor a field as I have, near the barn, in the fall if I can—if not, in the spring—*harrow thoroughly*, just before I wish to put in my seed; then furrow for the rows about twenty inches apart, and scatter in the rows a light coat of such manure as I can best spare, green or rotten, horse, hog or cattle; then cover lightly with earth; then drop on the seed—western or southern corn, at the rate of one quart to about six rods, and cover from one to two inches deep, and let it grow till such time as I wish to feed it, not requiring any after culture, as there will no weeds start till the ground is so shaded that they cannot thrive. In eight weeks from planting, it will be a sea of fodder, too tall for a man to look over, and almost too thick to wade through in the rows, and the stalks are not so large as to be unfit for cattle to eat.

Williamstown, Vt. N. S. DAVIS.

Corn after Buckwheat.—In reply to D. McM., of Delhi, N. Y., in regard to "corn after buckwheat," I would say that some twenty years since my father had a field planted in corn, which the cut-worms destroyed entirely. He then sowed buckwheat, thinking a good crop of that better than nothing, and he did get a good crop of buckwheat. The following year he plowed it and planted corn on the same, and got a very fair crop, (as good as on the other fields;) the only objection was, that the buckwheat, left on the field from the year previous, came up and required plowing, hoeing and weeding weekly, or until the corn was too large to work, to keep back the luxuriant growth of the buckwheat that was constantly coming up. It D. McM.'s soil is adapted and season favorable, he will have no trouble getting a *good* crop of corn, providing he has hands and time sufficient to keep the buckwheat plants that will certainly appear, from getting the start of the corn.

Shiremanstown, Pa. JOHN C. COMFORT.

PRUNING VINES.—A western correspondent says, "Where vines are inclined to make too much and too small sized wood, have you tried pruning early in May, rather than in fall or winter? If not, and you have a vine left unpruned, I wish you would try it?"

Inquiries and Answers.

Osiers—Manuring Trees—Gas-Tar.—1. I wish to cut a lot of willows,soon for tying grapes. &c., which will not all be used for some months. What is the best way to keep them till wanted?—2. Not being able to apply manure to my young trees last fall as intended, will have to do so this spring. Most of them have been set two years; the balance one. Will fresh. strong manure (horse and cow) that has been thrown out during winter, be good or bad for them, if applied to the surface early, and worked in during the season?—3. I am getting out a lot of grape stakes, which I would like to have last "all the time." I intend boiling them their whole length in gas tar. They are green, say 2 by 2 inches square. How long boiling will be required to do the work *thoroughly* for them? R. *Newark, O.* [1. The best osiers for tying are so tough that they may be tied in a close knot without breaking, after wilting a few hours. Hence they are best when cut successively a short time before using. There are two or three ways of keeping them when they are not at hand for cutting. One is to thrust one third of the lower ends into water—another is to pack them in large long boxes, imbedded in damp moss—and a third, and perhaps the easiest in many cases, is to bury them beneath the soil, where it will not become water-soaked.—2. Such manure may be applied to the surface between the rows, spreading it as finely and evenly as possible, and working it in gradually by the process of cultivation—which may perhaps be best effected the first time by turning two one-horse furrows from the rows upon the manure, and then cultivating down this ridge afterwards. Another way is to plow a furrow alongside of a row, fill it partly with manure and turn the soil back upon it. This, however, succeeds best if done in autumn.—3. If the stakes are quite dry or well-seasoned, a few minutes boiling in the gas-tar will render them perfectly impervious to water, and exceedingly durable. Probably half a minute would be sufficient.]

Portable Fence.—What is the cheapest movable or portable fence that can be put up? My object is to cultivate a piece of land of 20 acres this spring in onions, and the following spring to move the fence on another piece of land close by. E. R. *St. Louis, Mo.* [The kind of cheap fence to be used depends on the amount of timber at the place, and local circumstances. The best fence we have met with, most easily moved, requiring less lumber, and possessing sufficient strength, is the one invented by R. Haynes of Oberlin, Ohio, who may be addressed for the desired information. The amount of fencing for the four sides of a 20 acre lot will depend entirely on its shape. If the lot is exactly square, it will require 228 rods to go around it. If twice as long as wide, it will require 240 rods. Our correspondent doubtless knows enough of arithmetic to calculate for any other shape.]

Bean-Planter.—I wish to purchase the best bean-planter in use, drawn by one horse. I have no knowledge or experience in the use of such an implement. Will you have the kindness to say which you think the best, or would advise me to buy—quantity of ground to be planted four or five acres? R. B. C. *Ogdensburgh, N. Y.* [There are many planters offered in market in different parts of the country. The only two we are familiar with, are Emery's and Billings.' The former is an excellent one; the latter is perhaps not inferior; will drop hills 11 inches or 22 inches apart, and will deposit any concentrated manure in the hill, not in contact with the seed.]

Plowing Weedy Stubble, &c.—I have 40 acres of stubble land that was not turned under last fall after the wheat crop was taken off, neither was it pastured—the land being very rich it produced a great many weeds and grass—also the stubble was cut high. I am going this season to put it in Indian corn. Now the question that I am trying to arrive at is, whether to burn this piece of ground off, or turn under the whole amount—which way will produce the best crop? I would thank some person that knows to inform me. Also I am going to set 100 young apple trees, two years old from the graft, on a piece of new land; I would like to know just how to set them—how deep and how wide, and all about setting them—whether to cut the tops back or not. My object is to get fruit at the earliest opportunity. Chas. Fones. [It will make but little difference in the amount of fertility derived from this old vegetable growth, whether it is burned or not before plowing. Burning will, however, enable the plowman to do his work much better than otherwise, especially if the fresh ashes is well harrowed with the top soil before turning under. If the soil is heavy or clayey, it will render it lighter to plow the dry weeds under without burning—in which case it may be well to employ a hand to rake them into each successive furrow, in order that they may be completely covered. As the weeds have dropped their seeds before this time, the burning would not probably destroy many.

Our correspondent will find full directions for setting out orchards and their management, on p. 50, vol. 1, Rural Affairs, on p. 274 same volume, and on p. 221 of the Illustrated Annual Register for 1865. He will also find full directions for pruning on page 165 of the latter.

Grain Binder.—In your issue of Feb. 16, 1865, M. B. wishes to know the address of the manufacturer of the Grain Binder mentioned in your paper of Jan. 26th. It is W. W. Burson, Rockford, Ill. I would say that I have used the binder, and deem it a perfect success. The figures given by the Wisconsin correspondent for price of labor are too small for Illinois, the usual wages being $2.50 per day and board. I have never yet seen five men that bound 12 acres in a day after a reaper, but it may have been done; the average falls below 10 acres; then of course the profit in using the binder would be larger, viz.:

Seven men 1 day and board, $3,		$21.00
One team 1 day and board,		2.00
		$23.00
With Binder:		
Three men 1 day, and board,	$9.00	
One team 1 day and board,	2.00	
15 pounds wire,	3.75	
		14.75
		$7.25

Or a difference in favor of the binder of 72½ cents per acre instead of 42½ cents. The bundles hold together much better in handling, and mice never eat the bands on the stack. All that is required to make any man a good operator with the binder is to understand it before he begins to bind.

Champaign, Ill. H. J. D.

Seed Drill.—Where shall I find a hand seed drill to drill onion seed, broom corn, and other small seeds, and at what price? W. B. [All our principal agricultural ware-houses furnish them, but we cannot give the price. Will they not advertise, now that so many wish the information at this season of the year?]

Broom Corn.—I would like to see an article on the mode of growing broom corn, from the time of planting until harvested, and the average yield of brush and seed. If you will publish something of the kind in your valuable paper, you will confer a favor to many of your Wisconsin readers. S. W. M. [We have heretofore published many articles on this subject, but if any of our readers will furnish the details asked for we shall be glad to publish them.]

Laying-out Farms.—Will some of your readers who are posted in drafting, give a rule for laying off a farm—a correct scale for making a plot of a farm of 500 acres on a space the size Cochran's Farm-Book intended for the purpose.

Young Farmer.

Indian Corn or Sorghum.—What are the comparative merits of Indian corn and sorghum as fodder plants, and this considered both with reference to soiling and curing for winter use? What is the best mode of cultivating sorghum, and which variety is the best for these purposes? Perhaps some of your correspondents may be able to answer the above inquiries. If they will take the trouble to do so, I think they will confer a benefit on the public as well as on "W."

Atlantic Co., N. J.

Clover Rotation.—I recollect seeing several years ago, an excellent article on the improvement of a small farm of 50 acres, by a mode of management in which the farmer always had the benefit of a *young* clover sod for his oats and corn, and an *old* sod for his wheat. He did not pasture. I think rye was used. Can you give the best plan for always securing this *young* clover sod, without allowing the ground to lay bare. A Subscriber. *Cumberland Co., N. J.* [We cannot of course, say what article is referred to, without a more definite statement. A good rotation of the kind desired would be the following:—1. Corn, with all the coarse winter manure. 2. Peas or barley. 3. Wheat, with a top-dressing of fine manure or compost, to be followed by clover, and then corn again. On very strong soils, oats may take the place of the barley. We have known this rotation to be varied by allowing the clover to remain one year, and then to turn it over and sow wheat with clover—the second crop of clover to remain two or three years, to be inverted for corn as before.]

Corn Fodder.—Is there any method of storing well cured corn fodder in a barn, so as to have it come out bright during the winter? I cut my corn at the roots in September; let it remain in stooks till November—hauled it to the barn in dry weather—husked it and stowed away the fodder over the barn floor, upon a scaffold of rails, and now I find it *very mouldy indeed.* I do not think it worth one-half what it was when first put away. I have abundance of barn room, and prefer to have it under cover if it can be kept in good order. G. W. H. *Rochester, Mass.* [Corn fodder is very liable to heat or become mouldy, unless packed away where it can receive constant ventilation, the mode of which must be according to circumstances. If in stacks, the stacks should be small, with three or four poles or rails set upright in the centre, to form a chimney for the hot air to escape. If packed away in barns, it must not be in large masses. Large varieties of corn, with coarse stalks, usually form crevices enough for some air to circulate; but small corn with fine stalks, and especially corn sown thick for fodder, packs very solidly together; and there is always enough juice in the stalks themselves, no matter how dry the leaves may be, to produce heating.]

Sudden Death of Sheep.—We have lost several sheep by what seems to be epilepsy. A sheep will leave the rack, run about the pen once or twice, fall down, struggle, and die in five minutes. A very little bloody mucous froth sometimes comes from the nose and mouth, and a little ooze after death. Careful post mortem examination shows no perceptible disease or morbid condition of any organ whatever. The largest and fattest are attacked, and those which have lambed seem exempt. They have been fed clover hay; no grain; every two or three days have been turned out in a field where a number of apple trees were dug down last fall, of the buds and twigs of which they have freely eaten. We begin to think these have something to do with it, but would be glad to know if any one has had a similar difficulty, and the means of prevention, if any. W. H. S. *Woodbury, N. J.*

Colt.—I have a colt, two years, coming three in the spring. I cannot hitch her with a rope halter, because she will gnaw the hand piece. Is there any remedy? If so, I would like to know it. A Subscriber.

Spanish Chestnut.—In some back number I have seen the Spanish chestnut spoken of as much superior to the common chestnut. Where can I obtain budded trees from the nursery row—nearest place? Is the black walnut to be had from the nursery? G. W. H. [The Spanish chestnut and black walnut may doubtless be had at all the large principal nurseries at the Eastern cities, for example Parsons & Co., Flushing, Long Island.]

Grinding Corn in Cob.—Is it profitable to crush corn, cobs and all, for feeding hogs, or would it be the better way to shell the corn and then grind it? Wm. Harris. [It is best to shell the corn first and then grind it for hogs. Cobs, ground between common mill stones, always produce hard lumps or scales, unfit for feeding swine, and not advisable for cattle unless sifted out. Horse mills, with steel cutters, reduce the hard lumps in cobs, and render them fit for larger animals.]

Hard Water in Cisterns.—Have you not at some time published a receipt for curing the hardness of rain water in new cement cisterns? or at least shortening the time required for the difficulty to remove. If there is a remedy, (and I think I have read one,) please give it me, or tell me where to find it. M. B. B. [We do not recollect the receipt referred to. The more perfectly the hardening process has been effected before filling the cistern with water, the less will be the difficulty. Alternate exposure to air and to dashings of water would probably best prepare the cistern. Water which contains lime in solution, is rendered soft by the application of fresh or caustic ashes.]

Basement Stables.—In answer to the inquiry whether underground stables were unhealthy, we would say that we have used one for 15 years, and have not noticed any deleterious effect. We have kept stock in both the underground and in the stables above. and we could never see any difference. There are several barns with underground stables in this vicinity, and they are so well liked that others are raising and moving theirs so as to make underground stables, but they are only walled up on one side—that next to the bank—on the other three sides they are boarded, which does not make them so damp and confined as they would be walled on all sides. W. S. Allen. *Vergennes, Vt.*

Crows.—How shall I effectually keep crows from pulling corn? R. K. F. [The old remedy of applying tar was always effectual. It was applied by pouring hot water on a half bushel of corn in a basket or tub, allowing it to remain only a few seconds to heat the outside of the grain, but not to kill the germ, and then pour on, say a pint of tar, and stir it quickly and rapidly. Every grain will become nicely varnished with it. In the scarcity of common tar, we have been told that gas tar has been tried, and found to injure or destroy the grain.]

Lime.—Will it be of any use to put lime on a piece of rye on which grass seed is to be sown? If it will, should it be put on before the grass seed, or after, and to what amount per acre? Please answer in the Cultivator. A New Subscriber. [Lime is beneficial on most lands, but the amount of benefit can only be determined by trial in each particular locality. Common lime is often applied at the rate of two or three hundred bushels per acre, but it is believed that fifty bushels are equally efficacious. Magnesian or hot lime should never exceed forty or fifty bushels. It is not essential as to the time of year, but it is of great importance that it be finely and evenly spread, and not in lumps.]

Horse Hay-Fork.—In your Feb. Cultivator, I notice an article in regard to an unpatented horse-fork, by J. H. Swobe, and wishing to obtain the *best* in the cheapest possible manner. and Mr. S. being so partial to it in its description and its manner of working, I resolved to get the plan (if I could,) and build it myself. Can you give me the proper information in regard to the plan of Mr. Ingalsbe? Information sufficient for me to build one *right*. W. B. D. *East Rupert, Vt.* [Mr. Swobe's article states where the information you want can be obtained, viz., in the Co. Gent. for March 31 and April 7, 1864, where the fork is accurately figured and described.]

White Willow.—I wish to state that I with several others, bought White Willow cuttings from an agent in the spring of 1864, recommended by him as excellent for hedge-fencing. I take pleasure in making public the experience of one year. As far as the directions of the agent were complied with, we have met with entire success. I purchased 1,500 cuttings, put them in according to directions, and there was not one cutting in five rods but what made a vigorous growth—some reaching the height of five feet the first year, from the stick—showing beyond a doubt that it will make a good fence in a very short time, if properly cared for the first two years; but there are several persons in this section who threw them in, any way, and never cared for them to keep weeds from choking them, and, like others elsewhere, consider that they were humbugged. S. Barns. *Groesbeck, O.*

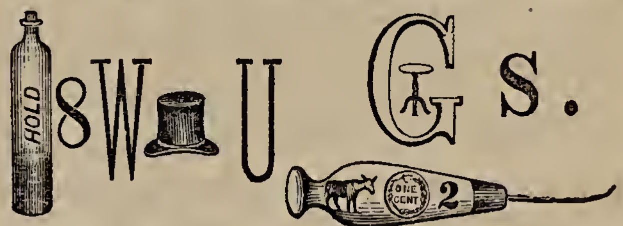
Water-Ram.—While writing I will say to your correspondent A. S. R., that when his water-ram "makes a jarring sound," it has water in the air chamber, and after being stopped off at drive pipe, service pipe, &c., must be relieved by unscrewing the nuts on the side opposite the service or supply pipe. When fully discharged of water connect and start again. The difficulty with the leather valve is effectually remedied by placing two valves together; if they have been used previously, it is no disadvantage, if somewhat softened, and hammered into a flat state again and two put together. They may take somewhat longer time to become flexible, but once at work, will last apparently without any appearance of wear, and it really amounts to a valuable discovery. J. B. O.

Farm Mill.—Where can I get a small mill for grinding corn or oats for feed? Please answer through The Cultivator. N. L. B. *Bethlehem, Ct.* [Many mills intended for horse power, have been at different times advertised and recommended. Can any of our correspondents tell us of one working easily and proving profitable after years of experience?]

Orchard Grass Seed.—Where can I get two or three bushels of orchard grass to sow in the spring, and how much per bushel; also, how much to sow per acre, and whether it is better for meadow grass than timothy? J. W. S. *Marysville, Ohio.* [It can be had at the Agricultural Store of F. A. Schwill & Brother in Cincinnati. As it is very light and coarse, it requires about two bushels per acre. As this grass is quite coarse, it is only fit for pasturage, and must be kept grazed short. Its chief value is for the early pasturage it abundantly affords, and for its growing better in the shade than other grasses. It is not to be compared in value with Timothy for hay.]

Threshing Machines.—*S. B. S., Ulster Co., N. Y.*, wishes to know the price of one-horse endless chain threshing machines, and wishes the manufacturers would advertise prices in The Cultivator. We wish so too; but he can obtain the prices by addressing Wheeler, Melick & Co. of this city, G. Westinghouse & Co., Schenectady, or R. M. Harder & Co., Cobleskill, N. Y.

Illustrated Rubus---No. 7.



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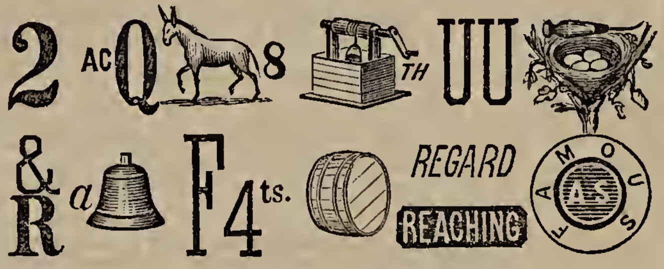

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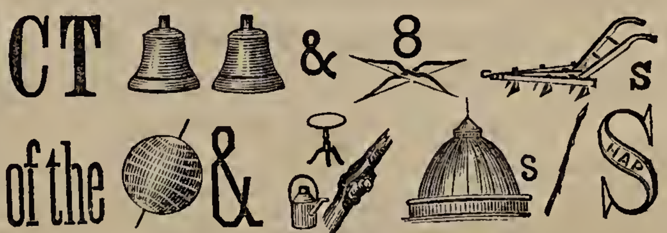

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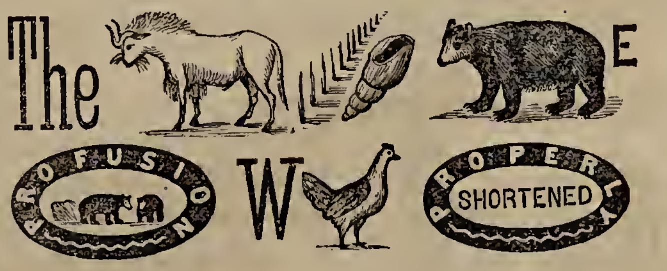

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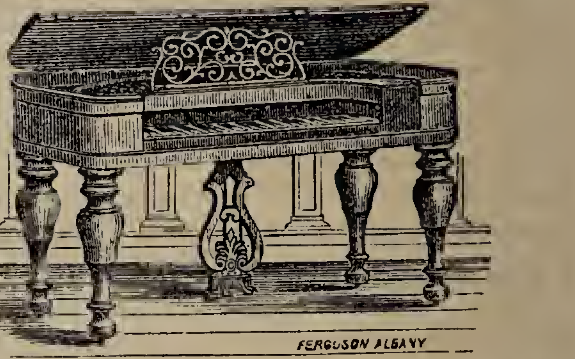

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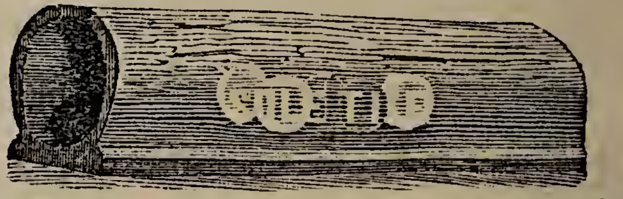

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J. E. EMMONS, Sec'y.

[*From the Executive Committee of the Agricultural Society of the State of New-York.*]

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THOMAS C. ANDREWS,
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THIRD] TO IMPROVE THE SOIL AND THE MIND. [SERIES.

VOL. XIII. ALBANY, N. Y., MAY, 1865. No. 5.

PUBLISHED BY LUTHER TUCKER & SON, EDITORS AND PROPRIETORS, 395 BROADWAY, ALBANY, N.Y.

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Our Prize Essays.

THE CULTIVATION OF TURNIPS.

BY WM. ANDERSON, ROCKFORD, ILL.

In attempting to compete for the premium offered for the best Essay on the Cultivation of Turnips I do not expect to write an elaborate article, but simply to relate my own practical experience, extending over a number of years. In doing this, the pronoun I can scarcely fail of being very prominent, which must be excused.

The cultivation of turnips successfully necessarily involves a good preparation of the soil, and also of manures. It has been my practice to grow turnips or mangold wurtzel after wheat, or some other white crop; just so soon after harvest as the weeds have taken a pretty good start, the land has been plowed with a skeleton plow—that is, a plow without any mould plate—simply a broad share with a couple of prongs set in it, so as to loosen all the soil, or if on a very light soil, a good cultivator will do it effectually with a little more horse-power. This being done in dry weather, will usually destroy all weeds and grass roots. Before winter sets in the land should be plowed deep and laid up dry, so that early in the spring it may be cross-plowed and cultivated. Should any be so unfortunate as to have couch grass, knot grass, or whatever it may be called, this is the time to get it out, and in this case the land will have to be rolled and harrowed, and got fine, that it may be raked off either by hand or horse power—that is if the weather is not sufficiently hot to kill it. The burnt ashes of this, however, is very good to mix with bone dust, or any other artificial manure. If possible, the land should be left in this state for the weeds to grow, say two or three weeks, then plowed again and got into a fine tilth. It will now be ready for sowing turnips, and as my practice has generally been on the ridge system, having obtained much the heaviest crops by this plan, I will describe that first.

RIDGE CULTURE.—If barnyard manure is to be used, plenty of force, as well as a speedy plan of operation, is required. I have usually opened out ten or twelve ridges 27 inches apart, (which is sufficient width for all practical purposes,) being the distance the wheels of the waggon or cart will track well. I have invariably had the barnyard manure hauled out to the lot for a compost in winter, (that is all I could get of it, and especially for the Ruta Bagas,) to be convenient, and save labor in sowing time. Supposing this to have been been done, my practice in putting on manure has been to have just so many waggons (or carts, which are far preferable for this purpose,) as will keep two plows opening and closing the ridges as soon as the manure is distributed in the furrows. To do this requires two teams in addition to the plow team, to keep the plow moving, and if the lot is large, it will require an extra vehicle at the manure heap. When carts are used I have one man to drag out the manure from the cart in the ridges, keeping the team moving all the time, with a boy to drive, which requires another man and two boys to spread the manure evenly in the furrows, taking seven ridges at a time. This amount of help will keep the plow in motion, and is the most expeditious I have ever adopted, of course expecting every man to do his duty, and having a full cart always up as soon as the other is empty. In covering up the manure, or closing the furrows, we cover it with one furrow and open another on the farther side of the ten or twelve ridges already opened, so as to have the whole thing moving. To cover the manure thoroughly it will require even spreading in the furrows, not left on the ridges, and the manure pretty well decomposed. In following this method one plow will open and cover in good style 2 acres per day, and as I have done this many days in succession myself, I know whereof I affirm. However I have frequently had two plows going, which consequently requires a little more help, but not nearly double; therefore a large quantity involves comparatively less expense than a small one.

In hot weather it is very essential to have the manure all covered at night, to keep both the land and manure as moist as possible. I have usually rolled the ridges down unless when I have used a drill with concave rollers, taking two ridges at a time, in sowing the seed.

FLAT CULTURE.—With regard to the flat culture which some prefer, preparing the land would be the same—spreading the manure over the surface and plowing it in. Some prefer doing this in the fall. The land should be rolled and the seed drilled 18 inches apart. I have obtained very good crops in this way, but not so much weight as on ridges, and it is considerable more expense in hoeing. If sown broadcast, the seed should be sown and rolled down.

Seeding.—In putting the turnip seed in ridges I have generally used a drill covering three ridges, either with or without artificial manure. To do this properly, of course the ridges must be made true and straight; otherwise the drill would not keep the centre of the ridge, and they would be difficult to cultivate, and it is quite as easy for a good plowman to make a ridge straight as crooked—in fact rather more so. With a drill taking only two ridges, having concave rollers and those made to vary according to the width of the ridge, there is not the necessity for such particular work. I have occasionally used a drill taking only one ridge, which is slow work. Probably some of our western farmers will say this is altogether too much expense. So it may be on new land that does not require any manure to grow splendid turnips, as we have had this year, but even here a little artificial manure with the seed is highly important to give the plants a vigorous start, to get out of the way of the fly, and other numerous enemies of the turnip crop, and on old land, such as a considerable portion of New-York State, and some others, the expense is trifling compared to the beneficial result.

Varieties.—As to the kind of turnips, I have sown the common Red Top or White Stone for first consumption; Scotch Yellow for second, and ruta bagas to consume last. But in sowing, this order wants reversing—ruta bagas may be sown the last week in May, up to the middle or even 20th of June, and the other kinds later. As to seed I have been called extravagant, frequently allowing three pounds per acre of ruta bagas, in a dry season, but generally only two pounds. I have known others to sow only one pound, and lose the crop in consequence—a thing I never did, having always acted on the principle that it is better to have ten plants to cut up rather than to want one in the proper place.

Preparation of the Manure—Artificial Manures.—As to preparing manures a long essay might be written, but having already said something about getting out barnyard manure, all that is needful to add here is that it should be turned over early in the spring and covered over again with muck or soil, to preserve the ammonia, and so that it may get pretty well decomposed before it is wanted for use.

I have used several different kinds of artificial manure, chiefly of home manufacture. Bone dust I have bought large quantities of, and have also bought bones and had them ground. When using bone dust, or half inch bones, I have, as is believed, a much better way than dissolving them with sulphuric acid, burning things up, and very much better for the crop, whatever it may be. I have never made this public, but shall now. Having procured all the bone dust needed for the season, have generally mixed it with ashes, two or three bushels to one of bones—the ashes being from grass roots if we had it, if not by burning the sward taken from the fence corners or anywhere we could get it to make sufficient quantity to mix with the bone dust. This must be mixed thoroughly and allowed to remain two or three weeks, when the bones will be completely decomposed, so that they will rub to pieces between the finger and thumb. This mixture I have drilled in, in different quantities, according to the strength of the land, from 30 to 80 bushels per acre. When using barn-yard manure, have not allowed more than 10 or 12 of bones, but in using bones and ashes alone, I would use 15 to 20 bushels of bones to the acre, besides the ashes—which will produce a good crop, and very easy to cultivate and hoe. If put on with a drop drill one foot apart, 10 bushels will be equal to 20 in a continuous stream, for this immediate crop.

I have also used large quantities of night soil, which probably is the best of all for turnips. I have invariably prepared it on the premises, using of course all we could make, beside buying of the scavengers when near a town or city, paying them $5 per load for it. The mode of preparation is to mix with ashes as above described, with this difference—use them as hot as they can be handled, taking the night soil fresh from the vault. In this way I have drilled it within a week from taking it out, but it is better to lie longer, and to be thoroughly turned and mixed, when it will become completely deodorized, so much so that the best of judges could not tell what it was composed of. I have frequently seen it taken up in the hand and smelt of, without exciting the least suspicion as to what it was.

I have also used a considerable quantity of pigeon manure mixed in the same way. Fortunate is he who lives near a pigeon roost. This most valuable manure is produced in Michigan in immense quantities, and it would pay on a large farm to build a house for tame pigeons in large quantities, for the sale of pigeons will soon return the cost of building, having the manure gratis. This home-made guano is very powerful and requires using with caution. I have never bought any guano for turnips, nor any other thing except bones. For the corn crop I have used guano with very good effect. Having sold a straw stack to the paper makers, I spent the money in guano for this purpose, and had 20 acres of good corn from it, merely by dropping a little mixed with wood ashes on every hill, after it was up.

Cultivating and Hoeing.—The best cultivator I have used, is one I had made to order, having a broad share 12 to 15 inchees wide, cutting both sides alike, and two curved knives two inches wide in the blade, adjustable to any width of ridge. In the side pieces I had seven harrow teeth, three on either side and one in the centre, which will effectually cut up all the weeds and leave the land in excellent condition, and may be run so close to the turnips that there is no need of side hoeing. If the land is in good order and the season favorable, the turnips will be ready to hoe and single out in three weeks, perhaps less. This I have generally had done by job work. One man and two small boys will do one acre per day, but if expert with the hoe may do considerably more. Of course every turnip grower knows the more frequently they are hoed the faster they grow. In hoeing turnips that are sown broadcast, it requires a man well accustomed to it to set them out properly.

Harvesting.—Supposing now that a good crop has been obtained, next comes the harvesting. This I have done by topping the turnips with a hoe as they stand in the rows. A quick hand will top two acres per day; after this we run the skeleton plow, with a flat share, simply to cut the tap root, leaving the turnip in the same position. The man holding the plow can very easily tell when he is cutting the root in the right place, by the feeling of it. In speaking of this plan it will be understood to refer to ridge or drill work. When this has been done they are very easily picked up and thrown into the wagon or cart, and put into the cellar, or if there is not sufficient cellar room, into hills, piling them five or six feet at the bottom, and running them up as high as they will stand, covering with earth the same as potatoes, with this exception, that they will not bear entirely closing at the top—otherwise they will nearly all rot. A space of two or three inches left open will be sufficient to let the heat out, and this must be covered with a heavy thickness of straw, which should be drawn evenly, and a shovelful of earth thrown on every foot or two to prevent its blowing off. The frost will not penetrate through this, as the heat within will keep it out, provided they have enough covering on the sides. I have had ruta bagas come out in capital order to the middle of May or 1st of June, or even later than that.

Consumption.—This opens a wide field which I have not time to enter upon at length, but may say that I have found the root crop one of the most profitable we can grow, having fed them out in a variety of ways,—in fattening sheep and cattle, to cows giving milk, to ewes, and also to young colts.

I have found them most profitable in fattening sheep, getting them to weigh 100 pounds dressed at 14 to 15 months old, taking the fleece off, of course. Feeding them to cattle is very profitable at present prices, but, if not actually stall fed, two or three-year old steers will pay well for having a few turnips through the winter, to keep them thriving all the time; then let them have two months of the best run of grass, and sell them fat in July, which will pay a most satisfactory profit. As to breeding sheep, mangold wurtzel answers the best, as they produce the largest quantity of milk, and do not require cutting. I have invariably cut ruta baga turnips for sheep; other turnips they will eat well without. The cutter I have used slices them five eighths by three-fourths of an inch for sheep, and for cattle twice that size, merely by turning the handle the other way. With one of these cutters two small boys can cut a bushel a minute quite easily, one to feed and the other to turn.

Turnip Taste in Milk and Butter.—Probably some will say feeding turnips to cows giving milk, will make the butter taste of turnips. This is simply from not knowing a remedy: it merely requires a very small quantity of nitre dissolved in hot water, and put into the milk before it is strained, most effectually to prevent any taste of the turnip—so much so, that I have fed turnips to a large number of cows all the winter, giving two bushels per day, and have sold many tubs of butter in the spring to the best judges, they not discovering the slightest turnip taste. The quantity of nitre must necessarily be regulated according to the number of cows kept.

I have not time to go into any particular account of profits, but have no doubt from my experience in feeding stock, that there is much more fattening matter from an acre of land in full crop of ruta bagas than there is in even 75 or 80 bushels of corn to the acre.

The foregoing is a brief statement of my own experience in turnip growing, and might have been better as to the nature of soils and other things connected with it, had it not been necessary to close up at once in order that this may reach you in season.

Rockford, Ill. WM. ANDERSON.

EARLY TURNIPS.

There is probably no season when fresh vegetables are more conducive to health than through the warm summer months. To be healthy, however, they should be freshly taken from the earth, and of quick, tender growth. But a small proportion of the rural population have yet learned the full value of the vegetable garden. The many are satisfied with a patch of early potatoes, thinking, as the works or rather want of works show, that the turnip is something to come in for fall or winter.

To raise the finest turnips for summer use, give a good top-dressing of muck and ashes. It will be well to mix them thoroughly on the surface a few days before using. The proportion of ashes will do very well when a half a bushel is mixed with half a cord of muck; but if more is used, the better. This furnishes a good soil for them to grow in. A top-dressing of guano will do them no injury. W. Bacon.

Richmond, Mass.

Agricultural Statistics of the United States.

It may be rather late, after the lapse of five full years, to refer to the Agricultural Returns of the United States Census of 1860. But the Census Office has just published a volume devoted to these returns, including many interesting facts which cannot well be passed by without remark.

The Superintendent, Hon. J. C. G. Kennedy, deserves the credit of prefacing this volume with one of the few sound and sensible articles on our agriculture which have ever appeared from the Government offices at Washington. With the assistance of competent associates in its preparation, it contains no little food for thought; and while we may not fully agree with all the positions assumed, we cannot but recognize the discrimination and judgment which they generally manifest. With little in the way of unduly magnifying our resources (which may well be left to speak for themselves,) we do not find, on the other hand, those sweeping assaults upon the shortsightedness and folly of our farmers, so often and causelessly repeated—assaults based upon the presumption that we are "exhausting the soils" of our older States, and which have given rise to such vastly exaggerated prognostications of reduced production here as were uttered by the English papers at the opening of the present war. Indeed the preface quotes the following remark from the London Mark Lane Express in which we venture to italicize a few words:

> "It has long been our opinion that the grain-exporting power of the United States was likely rather to diminish than increase under the ordinary circumstances of the country. This opinion was derived *from the statistical notices of the census and of the Patent Office*, and confirmed by the statements of Jay, Wells, and other American writers on the subject."

The volume before us points out that although there may be *some* truth in speaking of our farmers as practicing "an exhaustive system of husbandry," still, in taking possession of a new country, they found the land already "*heavily manured by nature*," and that in availing themselves of this to a great degree, before proceeding to artificial manuring, they have only done as their own interests clearly demanded. And now that at the East we have in many cases reached the point at which not the *soil*, but nature's store of manurial material in it, has been mostly "exhausted," there may be reason to reprehend the slowness with which the farmer is brought to realize the fact, and "to adopt an intelligent system of rotation and manuring." Equally is there room for justly criticising the Western farmer in an imprudent and prodigal wastefulness of the soil-wealth at his command. "The farmer is wise who makes the transition from natural to artificial fertility easy and gradual, so as to avoid all sterility." But, as the writer of this introduction remarks, it is only a "mis-use of statistical facts" to assert, as was done we believe within a few years, on the floor of Congress, "that our Agriculture is rapidly declining, that the quantity of food produced here each year bears a smaller proportion to the number of acres under cultivation, and that over a very wide area some of the most useful crops bid fair to become extinct." And, as the above extract shows, it has been the public documents of the government which have done the most to disseminate this idea—not by facts they really contained, but by "statistical notices" from superficial writers, ready to adopt the assertions of those having artificial manures to sell, or simply reiterating stereotyped expressions which had an air of superior wisdom.

The introduction of the present volume is very full in calculations as between the agricultural productions of the several States in 1850 and 1860 respectively, and in the proportion borne by these productions to the population of the whole country and its several parts. Thus, taking three of the most important grain crops, we have the quantity of each raised *to each head of population*, in bushels and hundredths of bushels, in the four main divisions of the Union, and in our whole territory altogether, as follows:

	WHEAT.		INDIAN CORN.		OATS.	
	1850.	1860.	1850.	1860.	1850.	1860.
New-Eng. States,	.40	.34	3.70	2.90	2.95	3.43
Middle States,...	5.33	3.69	9.11	9.04	8.20	8.65
Southern States,.	2.42	3.45	32.76	30.83	4.46	2.18
Western States,..	7.22	10.—	44.14	45.27	7.59	6.51
United States & Territories, ..	4.33	5.50	26.04	26.12	6.32	5.49

In other words, the United States in 1860 produced 550 bushels of wheat to each 100 of population, against 433 bushels in 1850; 2,612 of Indian corn against 2,604, and 549 of oats against 632—a considerable increase in wheat, about the same in corn, and a decline in oats, in proportion to population. So in three branches of animal products, we find the result, in pounds and hundredths of pounds, as below:

	BUTTER.		CHEESE.		WOOL.	
	1850.	1860.	1850.	1860.	1850.	1860.
New-Eng. States,..	16.10	16.42	9.94	6.89	2.59	2.09
Middle States,.....	16.08	21.50	7.94	6.15	2.33	1.81
Southern States,...	6.12	6.55	.13	.09	1.01	1.08
Western States,. ..	14.33	16.08	3.92	2.78	3.41	2.46
United States and Territories, ...	13.51	14.62	4.11	3.29	2.26	1.92

There was an increase in the Union at large during the ten years, from 1,351 pounds of butter per 100 of population, to 1,462, and a decrease in cheese from 411 to 329 pounds, and in wool from 226 to 192 pounds.

Without going into farther detail at present in this direction, it should be stated that the increase in population from 1850 to 1860 was 35½ per cent., and that while some products, such as the oat crop and wool clip, did not increase as rapidly as the population of the country, they did nevertheless advance in a considerable ratio. Thus the production of wool in 1850 was 52,516,959 pounds, and in 1860, 60,364,913 pounds, an increase of about seven and three-quarter million pounds. It is interesting to add moveover that the increase in wool was greater in proportion than that in the number of sheep; in 1850 the product averaged 2.41 per head, and in 1860, 2.68—an increase of .27 or about a quarter of a pound per fleece.

As the United States Census only reports the products in bushels, &c., of the several crops, and not the areas in acres on which they were raised, we cannot accurately determine the average crops obtained *per acre* in 1860, and at former periods. But there is one way of arriving at a fair test on this point, to which we might wish that greater space had been devoted in the volume under consideration. We refer to the comparison which may be instituted between the increase in the aggregate *amount of land under cultivation*, and that of its various productions,—a comparison which would show quite as forcibly as that with the increase of population, as to whether or no "the quantity of food we produce bears each year a smaller proportion to the number of acres we cultivate." With the view of ascertaining the truth in this respect we have ourselves devoted some time to the following calculations, which if space permitted we should have been glad to carry out with regard to the several divisions of the Union, as well as in the aggregate for the whole country.

In giving these calculations it must be premised that there is one element of uncertainty in them, arising from the manner in which the area of our farming lands is reported—which is done under two heads, namely "Improved Land in Farms" and "Unimproved Land in Farms." There are doubtless wide variations in the classification under these titles, some returning as "Improved Land" only that actually under the plow, leaving a vast surface of much agricultural use to be noted as "Unimproved," or else including under the latter title wild lands which, not being "in farms" at all, ought not to have been so reported. The aggregates for all the States and Territories are:

Improved Land in Farms,...........	163,110,720	acres.
Unimproved Land in Farms,........	244,101,818	do.
Total, ...	407,212,538	

And it is scarcely possible that of land enclosed "*in farms*" there should be anything like tne foregoing excess of what is wholly "unimproved" and useless. If we were to take the total under both heads, (407,212,538 acres in 1860,) for comparison with the corresponding figures in 1850, (293,560,614 acres,) the increase in the *total farm* area of the country would be 38¾ per cent. during the ten years. But we prefer to compare only the areas returned as "*Improved*," at the two periods, in which the rate of increase was considerably higher, in order that we may not seem to be stretching a point for the sake of reaching more favorable results:

Improved Land in the United States in	1860,	163,110,720	acres.
do. do.	1850,	113,032,614	do.
Rate of increase **44 1-3** *per cent.*,........		50,078,106	acres.

Now the chief crops at the two dates, including with the cereals, peas, beans and potatoes, were—in bushels:

CEREAL CROPS, ETC.

	1860.	**1850.**
Wheat,................................	173,104,924	100,485,944
Rye, ...	21,101.380	14,188,813
Indian Corn, ...	838,792,740	592,071,104
Oats,..	172,643,185	146,584,179
Peas and Beans,.....................	15,061.995	9,219,901
Potatoes, ...	111,148,867	65,797,896
Barley,...........	15,825,898	5,167,015
Buckwheat,........................	17,571,818	8,956,912
Totals, ...	1,365,250,807	942,471,764

Rate of Increase **45** *per cent.* (nearly.)

COMMERCIAL CROPS.

The chief crops under this head, (aside from cotton, which increased in about the same proportion—*i. e.*, was more than doubled in the ten years,) are the following, the products of which are given in pounds:

	1860.	1850.
Tobacco,.........................	434,209,461	199,752,655
Hops, ...	10,991,996	3,497,029
Flax,............................	4,720,145	7,709,676
Totals, ...	449,921,602	210,959,360

Rate of Increase **113 1-4** *per cent.*

VALUE OF PRODUCTS OF MARKET GARDENS AND ORCHARDS.

	1860.	1850.
Market Gardens, ...	$16,159,498	$5,280,030
Orchards,..................... ..	19,991,885	7,723,186
Totals,.................	$36,151,383	$13,003,216

Rate of Increase **178** *per cent.*

Animal Products and the Hay Crop.

The increase in the hay crop was from 13,838,642 tons in 1850 to 19,083,896 tons in 1860—an advance of 38 per cent., which although below the percentage of advance in "Improved Land" alone, compares favorably with that of the total surface included "in farms," the latter being 38¾ per cent. The value of animals slaughtered increased from $111,703,142 to $213,618,692, or a fraction more than 91 per cent. Dairy products and wool are the only items showing a comparative decline, the figures for these, in pounds, being:

	1860.	1850.
Butter,	459,681,372	313,345,306
Cheese,	103,663,927	105,535,893
Wool,	60,264,913	52,516,959
Totals,	623,610,212	471,398,158

The rate of increase here shown is only 32¼ per cent., it is true, but the very large increase in the value of "animals slaughtered" is probably more than enough to prove that this class of farm products has been fully sustained in proportion to the area farmed.

It is thus plainly evident, so far as the census returns may be depended upon for any deductions whatever, that the course of our agriculture during the decennial period ending in 1860, may be concisely described as follows:

1. Our population advanced 35½ per cent., but we increased the total area embraced in our farms 38¾ per cent., and the area strictly rated as "improved land," 44⅓ per cent.

This is notwithstanding the fact that during these ten years, our railroad, commercial and manufacturing interests extended with a wonderful rapidity, so that a larger proportion of the increase in population was engaged in those pursuits than in agriculture.

2. The means by which, in part, this has been accomplished, are indicated when we know that the value of agricultural implements and machinery increased 62⅓ per cent., or about *one-half more rapidly* than the area cultivated.

The total value of Farm Implements and machinery was returned at $151,587,638 in 1850, against $246,118,141 in 1860. But the returned "cash value of farms" had so much increased at the latter date, that while the farmer had $4.62 invested in implements in 1850 for every $100 invested in land, in 1860 the amount so invested was $3.70 only.

3. The production of the cereal crops *fully kept pace* in rate of increase with that in the area of *improved land.*

This is in accordance with the above table, in which however, a bushel of wheat only counts the same as a bushel of corn, oats or potatoes. The actual increase in the wheat crop alone was 72¼ per cent., while that in corn by itself was 41⅔ per cent., in oats 18 per cent., and in potatoes 69 per cent.

4. While fully maintaining our production of the cereals, we more than doubled that of the commercial crops above mentioned—increasing them about *two and a half times as rapidly* as the area of improved land.

The increase in tobacco culture in the New-England States for the ten years, was over 500 per cent.; in New-York it was from 80,000 pounds to 5¾ millions.

5. The diminished attention in some localities, to grain crops, is rather because there is now more time and labor devoted to Fruit and Market Gardens, than for the reason that "a scourging and exhaustive system of Agriculture" has been practiced until they can produce nothing at all.

The increase in the value of garden and orchard products is more than *four-fold* that in the area of improved land. This is one of the most striking features in the census returns of 1860.

6. Our total animal products, although we cannot arrive at the fact with entire definiteness, were undoubtedly quite as well sustained as our crops.

The very great expansion in the manufacture of cheese since the census of 1860 was taken, no longer assumes an abnormal appearance when we learn at how low an ebb this branch of farming was at that time—the production of 1860 having been actually less than that of 1850.

7. The reported "cash value of farms" in 1850 was $3,271,575,426, which would be at the rate of $29 per acre for the *improved land;* in 1860 it was $6,645,045,007, or at the rate of $40 per acre. The value of farming implements and machinery in 1860 was equal to $150 for every hundred acres of improved land, against $134 in 1850. The total value of live stock of all kinds was equal to $667 for every 100 acres of improved land in 1860, against $481 in 1850.

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Mutton Sheep---Gardinal Points in their Management.

In accordance with my promise, made some time since, I now give you a short account of my management of sheep. My experience at the commencement, was anything but encouraging, from want of practical knowledge. My first great difficulty arose from the lessons I had so often heard repeated about the impropriety of keeping sheep, especially breeding ewes, too fat. Now the result was, that in trying to avoid this extreme, I fell into the other, and found to my cost, when my ewes commenced lambing, that they were quite too poor; consequently there were many losses—the ewes not having strength to produce their lambs properly, or nourishment to support them.

I maintain, that low condition, and the necessary accompaniment—the want of a sufficient flow of milk, is the principal cause of the abandonment on the part of the ewe, of her progeny—except occasionally with young ewes with their first lambs.

Finding that this system of low diet was not very satisfactory, I have since tried the other course, and find that sheep, like all other animals, require generous feeding, and will make ample return for it in the shape of mutton, wool, and last, though not least, satisfaction and profit.

The three cardinal points in the successful management of sheep, are *proper shelter, judicious feeding and kind treatment.* For shelter, my arrangements are simple and inexpensive, and as they answer a very good purpose, I will give a short description of them. They are rough sheds, enclosed on three sides, and open to the south, with yards attached, enclosed by high picket fences, to make them dog proof. At the back of each shed a board is hung on hinges, which can be raised and lowered as required for ventilation; this board or shutter is four or five feet from the ground, so that when open, there is no draft upon the sheep, but the current of air passes above them, keeping the pen free from all unpleasant effluvia. These shutters are nearly always kept open, except in stormy weather, when they are closed, to prevent rain or snow from blowing upon the sheep. Fresh air, with protection from storms, is absolutely necessary for the well-doing of sheep. The racks are so arranged that the hay is thrown into them from the loft above, which is much better than carrying it among the sheep; it disturbs them less, and their wool is kept cleaner. The pens should at all times be kept well littered; by attending to this, it will be found that sheep will make a large quantity of very excellent manure, and at the same time be more comfortable and better for it.

To have the two latter points—*judicious feeding and kind treatment*—properly carried out, requires strict personal attention on the part of the owner; if left to the tender mercies of Patrick, something is very apt to go wrong.

Sheep if kindly treated become very tame and confiding; whenever I see them timid and wild on the approach of their keeper, I infer that their treatment is not as gentle as it should be. As to the exact amount of food to be given it is very difficult to state, so much depends on circumstances; of hay, they should have as much as they will eat nearly clean, three times a day. If too much is given, they will only pull it out of their racks and waste it. In clear cold weather they will require more than in damp mild weather.

My plan is to keep the ewes, lambs, and yearlings, in separate lots. I generally have twenty-five breeding ewes; they are kept in a pen about thirty feet square, rather more than half covered by shedding, the rest open yard, as above described. This gives them plenty of room, but not too much for heavy long, wooled sheep.

A few weeks before lambing, the ewes should have some grain, about a pint per head—more or less, according to condition—of oats, or corn and oats mixed. As they lamb, they should be separated from the flock and their feed increased, and if there are any roots on hand they would now come in very serviceably; too much attention cannot be given to seeing that they have plenty of fresh water at all times; salt should also be constantly within their reach.

At lambing time ewes require a great deal of attention, but to enter upon this subject would require too much space for this communication.

About the first of August the lambs are weaned, to enable the ewes to recruit somewhat before the buck is turned among them—which is done in the latter part of September. By this means the lambs come about the first of March, which I prefer to having them come latter, always having found that early lambs do better than late ones. The ewes should be put upon poor pasture, for a few days after being separated from their lambs, to check the flow of milk; this precaution may prevent injury to their udders.

The lambs, on the contrary, should have the best pasture—a recently laid down field with a good deal of clover, I prefer; and as soon as the grass begins to fail in the fall, I give them, and my other sheep as well, a little hay in the evening when they are driven to their folds, which prevents them from losing condition before they are taken into winter quarters.

It is very essential if good sheep are desired, that the lambs should be well cared for the first winter; this is the period that to a very great extent makes the sheep, and no after attention will compensate for neglect at this time. My lambs get a small quantity of oats during the fall, merely to get them accustomed to eating them; the quantity is gradually increased to about a half a pint each by the time the grass fails, after which they are fed a pint each, of a mixture of oats and corn—in the proportion of three parts of oats to one of corn—with as much hay as they will consume; an occasional feed of mangel wurtzel is also given, which they should receive daily with their grain, if I had them in sufficient quantity. I am fully convinced that to produce the best results in sheep husbandry, roots are absolutely essential, and for this purpose I prefer mangel wurtzels or Swedish turnips.

Lambs will make decidedly better growth, and keep in healthier condition, if fed a liberal quantity of roots with their allowance of grain and hay, and will bear confinement in airy sheds without injury. But if they don't get vegetable roots in their folds, they had better have an occasional run in the fields to get grass roots, (for grass there is none in winter.) With the above treatment, my lambs are perfectly healthy—making rapid growth, and shearing from ten to thirteen pounds of wool each. They are not put with the flock of breeding ewes till they are about eighteen months old; by this means they do not produce lambs until they have nearly or quite attained the age of two years. They are then sufficiently matured to bring forth in their turn, good strong lambs, without injury to themselves. This is not the case when they are permitted to lamb at an earlier period.

The yearling wethers, with the culls of the ewes, are fed during the winter so as to be ready for market in February, at which time they usually command the highest price. The yearling wethers average about one hundred and fifty pounds, and some of the best of the ewes reach nearly two hundred.

Edgewood, Westchester Co., Pa. C. E. H.

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CURE FOR RINGBONE.

In the Co. Gent. of March 30, Mr. J. H. Foster inquires how to cure *ring-bones* on horses. I will tell him him how to do it when they are not past cure.

1st. On the ring-boned foot, have a shoe with high heel corks and little or no fore cork. This is to prevent a pressure of the excrescence on the hoof.

2d. Use something which will cause the excrescence to be absorbed and carried off. The excrescence is caused by a derangement of the vessels secreted there, and if overcome it must be absorbed and carried off, and this too before it becomes a sort of cartilage or bony substance, and perfectly formed. To do this blistering is resorted to, but I will recommend a better and surer way, viz , make a compound as follows:

Tincture Iodine, ...	1 ounce.
do. Capsicum,.............................	1 do.
do. Camphor, *strong*,.................	1 do.
Oil thyme, ...	1 do.
Alcohol, ...	4 do.

Mix and apply this to the ring-bone three times each day, and at the same time give the ring-bone a severe rubbing. Then cover it with a woolen cloth closely, two or three thicknesses.

In a short time the excrescence will begin to grow smaller, and finally disappear—that is, unless it is past cure. There will be no difficulty in obtaining all the articles mentioned, except the *oil thyme*—that will be found difficult to obtain. The writer has never been able to find a pure article, except from importers of French drugs. It is commonly understood to be the oil of origanum, *but it is not*, and is as far from it as the oil of hemlock.

This compound will not always cure, for ring bone is sometimes past cure. There is little danger of hurt arising from the use of this medicine, although it may take off the hair, and sometimes produce a sore. The writer of this has known it to be used in many cases, and never has heard of but one instance where an excessive sore was made, and that was in a case where other ingredients were added. J. J. F.

Hamilton, N. Y.

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Manure the Farmer's Capital.—I would suggest, what has often been maintained before, that "manure is the farmer's capital," and that all of it which is so frequently wasted around the privies, the barn-yards, hog-pens, &c., be saved, and judiciously applied to the orchards, gardens and farms, and a great increase of wealth, health and happiness, would result therefrom to the people of this country. John R. Blair.

Growing Clover---Is there Danger of its being Overdone?

MESSRS. EDITORS—I have been waiting for some response to your inquiry, in regard to how long clover may be grown in Western New-York. You state, (last vol., page 48,) "about Syracuse, where it has been long grown, and so far as we are aware, on the wheat lands in the western counties generally, clover sickness is as yet unknown. If we are wrong, we would be glad to be informed if any symptoms of the kind have made their appearance." Now I have hoped and expected that if any signs of "clover sickness," or of any kind of failure in clover, had appeared in this part of the State, or in the wheat-growing sections of the Western States, that it would have been reported for your columns. For as clover is considered of great and increasing importance in this part of the State, I can but believe that if any symptoms of failure had been observed that we should have heard something about it.

I have resided in this county something over twenty years, and beginning with the year 1847, I have constantly taken and read an agricultural paper,—first the Genesee Farmer, and then the Rural New-Yorker, both published in Rochester, the centre of one of the best wheat-growing sections of the United States, and where clover is probably more largely and generally grown than in any other section of the country,—and to the best of my recollection I have never heard or read of any land becoming "clover sick," or refusing to grow clover, where the crop could be said to have anything like a fair chance. On most of this land clover has been grown more or less from 40 to 60 years, and on some considerable portions the main crops have been wheat and clover, grown alternately, —the clover being sown on the wheat, and then the next year plowed under, and the land again sown to wheat, to be again followed with clover; thus sowing clover three times in six years, instead of twice, as I recommended, and instead of injuring the land, making it "clover sick," or causing any difficulty or trouble of any kind, the invariable effect has been, that wherever the most clover has been grown the land has been in the best condition. And instead of there being the least evidence that there is any danger that there may be too much clover raised, there is abundant proof on every hand, that there is the greatest need of increasing many fold the amount grown.

Consequently it will be seen that your Prussian correspondent's "contradiction," (last vol., page 41) cannot apply here. But by referring to L.'s article it will be seen that he does not oppose "seeding twice in a six years' rotation," because it should not be done, but because, as he argues, it cannot be done, or as he says: "In all Germany we have no land that will bear it." Hence he says: "If it can be done, if the land will bear it, why then I should fully agree and highly congratulate Mr. F. on owning such land." Now in answer to this I believe I am fully justified in saying that from anything we know or can learn to the contrary, we have here in western New-York, and perhaps some of the best wheat sections west of here, just such land. And though we may not be able to tell to a certainty what we may expect in future, the fact that clover can be grown so much easier, cheaper and better here than in England or Germany—that our soil and climate seem to be so much better adapted to its cultivation, would certainly seem to show that there is very little if any danger of raising too much of it. In fact, judging from the experience of our farmers thus far in growing clover, the only limit to the amount that may be profitably grown, if in alternation with other crops, will be found when the land, by growing clover, and the application of barnyard manure, has been made as rich as is desirable for wheat, when to make the land richer would be as likely to damage the crop by badly lodging as it would be to improve the yield of grain.

And I wish to have it distinctly understood that in advocating the growing of more clover I am not going on the one idea principle of improving land solely by plowing in clover. But on the contrary, one of the principle objects in view in advocating the growing of a great deal larger and more frequent crops of clover is to have a great deal more clover hay to feed, in order to make more and better manure, being strong in the belief that to continue the growing of a large amount of clover with the making of a large amount of rich manure, is not only the easiest, cheapest and best course the American grain-growing farmer can take to improve and enrich his farm, but vastly better than it would be to depend solely on either manure or growing and plowing in clover.

But admitting the time may come when our land may refuse to grow clover, if it is sown too often, when we can only be sure of a good crop by sowing but once in a period of six, eight or ten years, yet the fact that long before the land will be brought to this condition, or become "clover sick," it may be brought to a high state of fertility—that by the frequent growing and feeding of heavy crops of clover, the land may be put in an excellent condition to produce any other crop—would seem to be an abundantly sufficient reason for growing clover until the land becomes as rich as may be desirable. For with a rich productive soil, there are plenty of other forage crops that may be grown for the use of the farm, until the land has become sufficiently rested to again produce clover.

But, instead of there being the least danger of growing too much clover, the reasons and facts brought out during the discussion of this subject in your columns, incontestibly proves that the farmers of the wheat-growing sections of the Northern and Western States, cannot do better than to largely increase the amount of clover grown on their farms. And, in view of the large amount of land that is not only not improving, but is being more or less run down, as it is more or less farmed on the skinning system, and also in view of the fact that there are considerable sections of country that formerly produced good crops of wheat, that have long since failed to do so; and that there is too much reason to fear that this may be the case in regard to much, if not the most of our wheat lands—I say in view of these facts, it seems to me that I cannot too strongly urge all wheat-growing farmers whose lands are not in a condition to produce heavy crops, to largely increase the amount of clover grown and fed on their farms. F.

Orleans Co., N. Y., 1865.

THE CORNELL UNIVERSITY.

The Act which has passed the Senate of this State, and is we believe now pending in the Assembly, to establish the "Cornell University," and to appropriate to it the income arising from the Congressional land grant, is in reality the *acceptance,* rather than the donation, of a magnificent trust, on the part of the State. Its provisions are based upon the preliminary condition that "within six months from the passage of this act, the said corporation possesses a fund of *five hundred thousand dollars at least,* given by the Hon. Ezra Cornell of Ithaca"—to be given inalienably and absolutely, for the purposes and behoof of the institution. This most liberal offer on the part of Mr. Cornell, hinges only upon the appropriation by the State, of the Land Fund granted by Congress expressly for such appropriation. The income of that fund has been heretofore made payable to the "People's College," at Havana, indeed, but under certain conditions and restrictions which are understood not to have been complied with. If such is the case, the Legislature seem to be perfectly at liberty to resume the disposition of the fund, and not only at liberty but under actual obligations to place it where there may be some hope of realizing from its use the advantages designed.

The friends of the People's College, however, having expressed the desire that a farther opportunity should be given to avail themselves of this fund, as appropriated to that college in 1863, the present act is made wholly inoperative—provided the money shall be forthcoming on their part within three months, sufficient to enable its trustees to comply with the law of two years ago, and provided its buildings, grounds, &c., are shown to be held by a clear and unencumbered title. If there is any doubt, therefore, of the entire legitimacy of such action on the part of the State, as should re-appropriate the land fund, on account of the terms of the former appropriation not having been met,—that doubt must be wholly removed by the ample grace accorded to the People's College, (if its trustees are really in earnest in their hopes of yet going on with the undertaking,) to make up for lost time, and apply themselves to the task in hand. Should they do so, we must hope the best results from their future endeavors, as at least a partial recompense for the loss to the State of Mr. Cornell's munificent gift. Should they fail to do so, on the contrary, the bill makes every provision for immediately organizing the "Cornell University," and that institution, without awaiting the sale and investment of the Congressional lands, will go to work at once under the capital furnished by its principal founder.

It seems proper and right to characterize the act before us as the acceptance and not the giving of a favor by the State. The institution growing out of the Cornell donation is to be put in operation satisfactorily to the "Regents of the University," and to be subject to their visitation. The governor, lieut.-governor, speaker of the assembly and superintendent of public instruction, are to be trustees *ex-officiis.* But, more than any real or nominal share in its management through these officers, the people of the State are to derive a direct benefit in the free education of one student from each assembly district, annually admitted for the full course; or, as that course will probably be of four years, this provides for the constant gratuitous tuition of no less than *five hundred pupils* from all parts of the State, provided only that all the assembly districts avail themselves of the privileges of the law. In this way not only the influence of the education received is diffused throughout the whole community, but the graduates will be prepared in their several localities to undertake and carry out any experiments which may be committed to their charge, and to advance as they may be able the preparatory studies of those desiring to enter the College.

The object of the corporation to be known as the "Cornell University," is stated in general terms to be "the cultivation of the arts and sciences and of literature, and the instruction in agriculture, the mechanic arts and military tactics, and in all knowledge;" but its *leading end* is afterward more specifically stated as being "to teach such branches of learning as relate to agriculture and the mechanic arts, including military tactics"—which is, in other words, the precise object for the promotion of which the grant of public lands was made by Congress. Under these circumstances,—with the liberal provision for free students,—with the proffered fund, unprecedentedly large, we presume, as a tender from a single citizen under similar circumstances,—and with the extreme care shown in drawing up the bill, to meet all that the People's College can fairly claim, in a fair and considerate spirit,—we cannot think that members of the Legislature will be willing, advisedly, to incur the responsibility before their constituents, of permitting the bill to fail. It is with undisguised hesitation that we ever refer to laws pending the action of our legislators, but when a measure appears so clearly to meet the views and the wants of those best informed on the subject, as well as of the great body of the farmers of the State, it is no more than a matter of duty to give expression to these sentiments, and to express the confident hope that they will not be disregarded.

A GOOD SHEEP RACK.

Messrs. L. Tucker & Son—I am so well pleased with a rack for feeding hay and grain to sheep, that I have been using this winter, I cannot forbear sending you a description of it. Anything that in these days of high prices enables a farmer to save both hay and grain, is a valuable improvement, and this rack I speak of does both. It is called Ralnston's combined rack and trough. It effectually prevents the sheep from pulling and treading under foot the hay, as they will do in the ordinary rack used; and there being a separate place for each sheep to feed in, prevents the strong from crowding out the weaker ones, especially when feeding their grain.

Its simplicity enables any one who can use tools to make it, the amount of lumber required to make a rack 16 feet long, being about 85 feet.

I do not know how to describe it better than to say it consists of a trough with a slatted cover fastened to it by hinges, and a railing framed on to this cover to prevent the sheep from jumping across. To fill the rack you throw back the cover, put in the hay or grain, and then turn the cover to its place again, when the sheep eat between the slats. I believe its use this winter will save me more than hay enough to pay for the cost. Any information about these racks may be obtained from C. G. Alderman of this place.

Aurora, N. Y. TALLMD. DELAFIELD.

SYRUP AND SUGAR FROM SORGHUM.

Messrs. L. Tucker & Son—In the Country Gentleman of Jan. 26th there is an article on Sugar Cane, by R. L. Sharp, in which he makes the following inquiries: "What is the best mode of planting and cultivating, and the best mode of taking off the blades; also if there is any way of constructing flues, so as to take less fuel, or any mode of planting, cultivating or evaporating so as to produce sugar in quantities to pay?"

For seven years I have made cane growing a speciality, and have experimented much on the points raised by Mr. Sharp. My conclusions are—1st. Plant in rows 4 feet apart, north and south, with hills 20 to 24 inches apart in the rows. 2d. On second hoeing leave only from 4 to 6 of the best canes in a hill and never pull off the suckers. 3d. The ground should be thoroughly worked with cultivator and hoe till the cane is knee high, and thereafter the weeds kept out with the hoe. The last time going through with a horse I prefer a small plow, and turn the furrows to the row. Late plowing through cane is not advisable; though it may increase the size of the cane, it *does not* add to its saccharine value, but it *does* delay its ripening, and especially is this the case if you cut the roots. 4th. Stripping or blading the cane has been, and now is, one of the great drawbacks of cane growing. The hand stripping mentioned by Mr. Sharp is very tedious, as well as expensive. A very simple arrangement which I devised will enable a man to strip from one to two acres per day with ease—I have used it five years—viz: Go into the wood and cut a three pronged stick, the prongs starting out near each other, and not very flaring. A little trimming gives you a *stripper* that will do good service, and if the prongs come out right, you can perform the labor with it I have mentioned. In the absence of woods a little labor and skill will put together sticks that will answer the purpose better; if made of iron, it would be no worse. 5th. One cord of good wood ought to boil down 150 gallons of syrup, and will do it, with a properly constructed arch and pan. Something must have been very defective either in Mr. Sharp's pan or arch, or both, to require a cord of wood for 40 gallons. 6th. Sugar *can be made from cane so as to pay.*

Cane, like every other vegetable, is improved in quality by cultivation. After cultivation the secret of sugar making lies in three, or rather in four things, viz: 1st. Proper clarification. 2d. Rapid evaporation. 3d. Mode of finishing off. 4th. The condition of granulation. The juice should be thoroughly clarified at as early a stage as possible; afterwards *boiled down* as *rapidly* as possible. From the siruping or evaporating apartment the sirup should pass at once into a finishing or sugaring-off apartment, so arranged that the heat can be guaged at pleasure. Intense heat at this stage of operation seems to *melt the crystals*, rendering crystalization thereafter impossible, or nearly so. The mass should be removed from the fire at the proper time—that is, it should not be too thick, nor too thin—and without scorching. A density of 12½ pounds to the gallon is the nearest point by weight I can give for sugar.

When removed from the fire it should be put into an open barrel, while yet warm, and kept in a warm place, stirring occasionally. If granulation does not begin within a very few days, stir in a little sugar. It will form a nucleus, around which the grains will cluster and sink to the bottom. By this process from one-third to two-thirds will become sugar. The evaporator I have used with the best results is called the "Eureka" sugar pan. It has the most perfect arrangements for clarifying and sugaring down of any pan I have ever seen. A firm in this city have arranged to manufacture it.

Jackson, Mich. J. R. WEBB.

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SORGHUM IN MARYLAND

I have seen from various parts of the country, communications in the papers, from persons engaged in the cultivation and manufacture of Sorghum cane, and as we have been somewhat largely engaged in manufacturing syrup here, I thought a short account of our works might not prove uninteresting to your readers. The mill at this place belongs to my employer, Mr. H. B. Slaughter, a gentleman well known in this State as a large steamboat owner, and as the pioneer in the business of packing fruit in hermetically sealed cans. He is still largely engaged in this business, and employs an immense number of hands during the fruit season. The mill used here for crushing cane is a horizontal one manufactured in Baltimore, by a firm which has been long engaged in making them for the West India market. The power of this mill can be judged from the fact that each of the three horizontal rollers weighs 1,500 pounds. During the past season this mill was driven by one of Page's portable engines of eight horse-power, but it was found to be totally inadequate to drive it to its full capacity, and we have purchased an engine of thirty horse-power for the next season. The quantity made last fall was somewhat over 7,000 gallons. With our new engine a much greater quantity will be made in the same time. We used two of Cook's plantation pans, 15 by 4 feet. The quality of the syrup made is considered by competent judges, as superior to any other made in this section. We consider Cook's Evaporator superior to any other, and intend adding several more of them the coming season. With our increased facilities we expect to make at least 20,000 gallons the next season. The yield varied considerably last fall; some lots of cane did not pay for working, owing to its being mixed with broom corn. The largest yields were from one lot of one-quarter acre, 73 gallons; a lot of half an acre, 101½ gallons, and a lot of one-sixth of an acre, 31 gallons. These yields are as large if not larger than any I have seen reported. The first was from a piece of black, sandy, swamp land, the second from high sandy land, and the third from red clay. Mr Slaughter, with his usual enterprize, has ordered a lot of pure seed direct from China, which he hopes to have in time for the spring planting; (none of this seed will be for sale, except to the patrons of this mill —this will prevent inquiries.) Why do not the syrup makers of this country unite in petitioning Congress to abolish the tax on Sorghum? It is a growing interest, and should be nurtured until it is out of its infancy, before being taxed. Should it be agreeable, I will take pleasure in penning an occasional article from this section, which is fast becoming the fruit garden of the Eastern States. W. F. Massey.

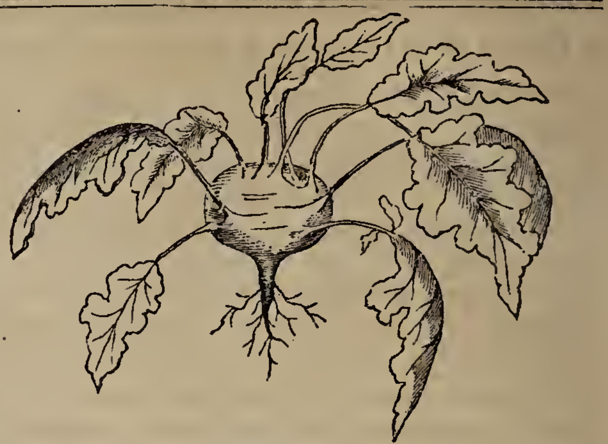
Queen Anne's County, Md.

EXPERIMENTS WITH KOHL RABI.

Messrs. Editors—It has been claimed by the advocates of the agricultural department of the Patent Office, that the seed of the above named vegetable was first introduced into this country through its agency, and that its introduction was going to be of great benefit to the country in general, and farmers in particular. I doubt whether it was first introduced by the department, but it has evidently been widely distributed by it, and it would seem to be no more than fair and honorable that the recipients of its favors should publish their success with the seed, so that those who are not so fortunate as to have their garden seed furnished them at the public expense, may at least receive a little information as to the value of new things, especially as we all have to pay our proportion of the public taxes by which the institution is supported. But I find, as far as my acquaintance extends, very few persons who receive their garden seed in this way, or who receive the agricultural reports of the department, take the trouble and expense to take an agricultural paper; they therefore cannot be expected to communicate the result of their investigations and experiments, if they make any, to papers they do not read. Perhaps when the department gets the new monthly report, which I see by a late number of the Country Gentleman, is to be a regular agricultural periodical, well established, the receivers of its favors will furnish it occasionally with an original communication, so it will not be entirely dependent upon clippings from the agricultural press for its matter of fact, as the Agricultural Report of the Patent Office notoriously was a few years ago.

Wishing to refresh my memory as to what has been published in regard to the kohl rabi in the Country Gentleman, since it was first introduced to public notice, I have been looking over the volumes, but I do not find much information given about it. It is noticed in only half a dozen volumes out of twenty-four, and these are mostly short ones, or inquiries about it. The few editorial remarks in the number for March 4th, 1858, contain more practical information than any other article. The communication of A. R. A., in the number for May 3d, 1860, contains many good suggestions, and urges those who have cultivated it to publish the result of their experience. In compliance with the wishes of A. R. A., and my own inclination, I will give the readers of the Country Gentleman my own experience with it, and hope others will do the same.

In the spring of 1859, a physician, who came from Germany a few years before, and had settled in this place, brought a small package of the seed to me and wanted me to start them for him in my green house, as he could not get them to grow early enough in the open air. He spoke very highly of the plants as furnishing an early vegetable in the first part of summer, and said what were not used then could be allowed to grow till fall to feed cattle with. I sowed the seed and it came up well and grew finely. As the Doctor did not want all the plants, I took those left and transplanted them into the garden at the same time I did cabbage plants, and cultivated them in the same way. Late in the summer, when they had got to be 5 or 6 inches in diameter, we had some of the bulbs cooked for the table, but they were not very well liked, so the rest were suffered to grow till fall. A short time before they were harvested some eight or ten of my neighbor's cows and oxen broke into my root patch, and after tasting of a number of varieties of cabbages and turnips, got hold of the kohl rabi and devoured a number of them before being discovered at the mischief. They gave very decided proof of their choice, for they left all the cabbages and turnips and employed their time wholly in investigating the merits of what, to them, was very evidently new and very good. I had enough left to harvest with the cabbages and turnips and put into the root cellar under my barn, and feed to my cows at different times through the winter. I found my own cows liked them as well as my neighbor's, preferring them at all times to any other root or vegetable. I also found they kept better than any other vegetable, so that I kept a few to the first of June, and they appeared to be about as good as at any time before.



KOHL RABI.

In regard to their use as a culinary vegetable, the Doctor told me afterwards that I did not try them early enough, and he said they should be planted into very rich ground, so they would grow quick, and then used very early in the summer, before they were half grown. The soil in which the bulbs were grown was not very rich, but the produce was as large as with ruta bagas grown on the adjoining ground of the same quality.

This was my first experiment in growing the kohl rabi, and I was very well pleased with the result, so that if I could have obtained seed, I should have planted it the next year, but the seed could not be had; so to make sure for another year I set out half a dozen of the best bulbs that had the roots left on them when they were harvested, in the spring; all but one of them grew and produced an abundance of seed. As the kohl rabi is said to be a hybrid plant, I did not feel quite sure that the seed would produce kohls; it might produce cabbages or turnips, or a mixture of all three. However, I planted it the next year, and it proved to be good seed, true to its kind, and I raised a good crop of bulbs from it. I did not see but that they were as good as those raised the year before from the seed from Germany. Since that time I have continued to raise them every year, and I think I shall continue to raise them so long as the seed can be obtained. I think they can be raised, taking all things into consideration, much more cheaply and easily than any other root or vegetable generally used for feeding stock.

In order to grow a large crop, the seed should be sowed very early in the spring, as early as a seed-bed can be prepared for the seed. It is best to sow the seed in drills, so the plants can be hoed and kept free from weeds till they get to be 5 or 6 inches high, when they are ready to be transplanted, the same as cabbage plants; but care must be taken not to plant them but very little deeper than they stood in the seed bed, for the bulbs form just at the top of the stem where the leaves branch out, so this part must be kept well above the ground both at planting and when hoeing them in the summer. If the plants are set in good, heavy, well-manured soil, and kept well cultivated with the horse hoe or cultivator through the summer, they will produce as largely as ruta bagas or mangolds, and they can be harvested with very much less labor than any other root. They can remain in the ground till very late in the fall, even till it freezes up, as in gathering them they are cut off between the the bulb and the ground with a stout sharp hoe, then collected together, and after pulling the few remaining leaves from them, stored in a cool, dry cellar, where they will keep in good condition till the following June. As there is no dirt gathered with them as with all other roots, they can be kept as clean and nice as apples.

I have raised the khol rabi in the same way I do ruta bagas, by planting the seed where the bulbs are to grow the last of May or the first of June, but so large crops cannot be got in this way as by sowing very early in a seed bed, and then transplanting. The plants transplanted early in June will make the largest crops, but a part of the plants can remain in the seed-bed and be transplanted in July after an early crop of peas, or some other early vegetable, has been taken from the ground; in this way two larger crops can be obtained from the same ground than in any other way.

Fearing that seed raised a second time from the bulbs might begin to deteriorate, last year I thought it best to obtain some new, and seeing by the catalogues of Mr. Bliss of Springfield, Mass., and Mr. Vick of Rochester, N. Y., that they had it for sale, I sent by mail and procured some from both places, which proved to be good. No doubt it can be obtained of them at the present time, and also of other large dealers in seed, whose advertisements can be found in the columns of the Co. GENT.

After half a dozen years' experience with the kohl rabi, I am of the opinion it is the *very plant adapted to the climate of New-England*, and that it will, before many years, be more largely cultivated than any other, excepting Indian corn, for feeding stock. I think it has many advantages over all other roots, bulbs or tubers, not the least of which is its power of withstanding our scorching drouths. In England it is called *the bulb of dry summers*, and is said to endure the drouth better than any other root. I think that will be found to be the case in our own country. In the very severe drouth of last summer I did not see as my plants suffered in the least. In regard to its many good qualities, I am fully of the opinion of the author of the Book of the Farm, and there is no better authority. He says: "Specimens of the kohl rabi have been raised in Scotland weighing from 5 to 7½ pounds each; in Ireland individual bulbs have attained the weight of 14 pounds, and in England they commonly reach from 8 to 10 pounds. It is an excellent food for cows and horses, and when boiled with grain for their use, will afford them true nourishment. The leaves may also be used, having entirely the character of a true cabbage; they should be removed with a sparing hand, else the enlargement of the bulb will be prevented." The advantages which it is said to possess over Swedish turnips by those who have cultivated it in England and Ireland are these: "Cattle, and especially horses, are fonder of it; the leaves are better food; it bears transplanting better than any other root; insects do not injure it; drouth does not prevent its growth; it stores quite as well, or better; it stands the winter better; and it affords food later in the season, even in June."

As to removing the leaves, as alluded to in the above extract, if they are not taken off too early, it will not prevent the enlargement of the bulb, for the first formed leaves or those on the lower part of the bulb, drop off themselves when the bulb gets to be pretty well grown, and new leaves are continually forming at the crown of the bulb to continue the enlarging of the bulb. As soon as the lower leaves begin to turn yellow they will come off very easy, and if taken off then, it will not damage the bulb, and cattle are very fond of them, and they afford a large amount of fodder in this way.

Now if there is any Yankee farmer so lazy and shiftless as to wish for more advantages than this plant affords, he can obtain one more; by sending to the Commissioner of Agriculture, he can perhaps obtain the seed free, and while he is about it he may as well send for a man to bring the seed to him, and plant it and do the cultivating for him. I do not see why Congress has not the same right to make a law for this purpose as to establish an eleemosynary institution for the distribution of garden seed, or set up an agricultural periodical.

Concord, N. H. A. C.

HAY SWEEP

I received from you not long ago, a number containing a cut and description of the hay drag. It is a subject of deep interest to me as I cut 200 acres of meadow, and house the whole in hay-house, where it is baled for export. We have been in the habit of first shocking and then dragging the shocks by horse and rope—some of them more than half a mile. Labor is becoming very scarce with us, and if I can get rid of the heavy labor of shocking, and the drag works well and does not waste hay on its route, I will have gained a very great point. This consideration emboldens me to ask you the following questions:—1. Have you seen the machine in actual operation?—2. Is it necessary to *bunch* the hay by the ordinary hay-rake, or simply to throw it by the rake into winrows?—3. Will it haul without loss the distance of half a mile on good ground?—4. Could not the machine be increased in size so as to use four horses or oxen, and how could they be attached, and would it be advantageous to do so?—5. Does it take up the winrows perfectly clean, or has the rake again to be used to clean up?

Frankfort, Ky. M. B.

1. We have seen this machine in very successful operation. It was invented many years ago, and used extensively, by WM. R. SMITH, of Macedon, N. Y., but was never patented.—2 and 3. It works better in the unbunched winrow than in any other way, and takes up the hay as clean, or nearly so, as a common horse-rake, and will draw any distance on smooth ground. 4. The machine might doubtless be made larger, but it would probably be more cumbersome, and possibly difficult to manage on uneven ground. Two horses will draw a large quantity, and two boys, old enough to ride and guide, will manage it without any difficulty.

"PLOWING WEEDY STUBBLE, &c."

MESSRS. EDITORS—In your No. of the 16th inst., I see an inquiry under the above heading, as to the best manner of treating a weedy stubble. My plan is to set the mowing machine to work in the fall while the weeds are in blossom, and thus destroy the seed. If I had a field like the one in question, I should burn it if possible, as the ashes would act more immediately on the succeeding crop. After burning take a Kelsey harrow if you have one—if not get one—and harrow the field twice, and then roll it, and this will cause all the seeds to vegetate, and effectually destroy all the seed that lay on the surface. Then set the plow to work and turn the whole under, and thus put to rest all the trash that would otherwise accrue from the crop of weeds. In fact I should have but little fears but that the seed would all vegetate though not harrowed, as most seed will vegetate under the influence of a spring sun, and that too before it may be necessary to plow the field for corn. JOHN KELSEY.

Prospect Farm, near Yardleyville, Pa.

CHICAGO GRAIN MARKET.

As probably the greatest primary grain market in the world, the city of Chicago, and the business there transacted, possess an interest which will warrant our reviewing very briefly a pamphlet just issued from the office of the Tribune of that city, containing the statistics of its commerce for the past year. In the outset we may copy the following tables of the receipts of flour and grain for four years past, both because it illustrates the comparative crops of those years, throughout the great West, and because, in the language of the pamphlet, it proves that "notwithstanding the drain which has been made on us for men and means, agricultural pursuits have been pushed forward with redoubled energy and vigor, and now a much greater breadth of land is under cultivation, in the fourth year of the war, than was before known in the history of the country."

TOTAL RECEIPTS OF FLOUR AND GRAIN FOR FOUR YEARS.

	1861.	1862.	1863.	1864.
Wheat, bush.,....	17.539,909	13,728,116	11,180,344	11,257,196
Corn, bush.,......	26,543,233	29,449,328	25,459,508	13,623,087
Oats, bush., ...	1,883,258	4,138,722	9,139,525	13,653,914
Rye, bush.,........	479,005	1,038,825	8,69760	969,116
Barley, bush., ...	417,129	872,053	1,098,346	740,446
Total, ...	46,862,534	49,227,044	48,708,483	40,243,786
Add flour in wheat,	7,230,865	8,331,953	7,371,420	5,708,955
Total, ...	54,093,219	57,558,999	56,079,903	45,952,741

Readers will not need to be reminded of the memorable frosts of 1863, which rendered the Indian corn crop of that year so nearly an entire failure—a failure due to season alone, and which accounts for the fact that the receipts of this grain in 1864 were only about one-half the average of the three preceding years. While the wheat crop of 1860, as shown above in the receipts for 1861, has never since been fully equalled, this is owing, at least in part, to the war demand for oats having given a constantly increasing impulse to the culture of the latter grain. And but for the frosts of 1863, as affecting the corn crop, the receipts of all kinds at Chicago in 1864, would have undoubtedly presented an aggregate fully equal, if not considerably superior to that of any preceding twelvemonth in her history.

In addition to dealing in the wheat and flour grown or manufactured elsewhere, Chicago is a more important milling point than many are aware. Eleven establishments turned out 255,000 barrels of flour in 1864, which is slightly above the average amount of the four preceding years.

The progress of the live stock trade of Chicago during the past four years, is shown in the following figures :—

	Hogs.		Beeves.	
Year.	Received.	Shipped.	Received.	Shipped.
1861,.........	675,002	280,094	204,579	124,146
1862,.........	1,384.890	491,135	209,655	132,745
1863,.........	1,900,519	810,453	298,381	293,217
1864,.........	1,582,047	701,854	336,627	179,520

Considering the failure of the corn crop, the hog product has been sustained perhaps better than might have been anticipated. As to beeves, "the fact has never been so apparent as during the year now closed, that Chicago is rapidly becoming the great centre of the Northwest for supplying the increasing wants of the entire country. The markets formerly chiefly supplied from Ohio and Indiana—as Philadelphia, Baltimore, New-York, Brighton, Cambridge, and Albany—are now depending principally upon Chicago for the best beef; and the Canadians regard the Illinois beef as the best they can procure."

The number of beeves packed at Chicago in 1863–64 was about 70,000, and for the season just past probably considerably larger. The number of hogs packed in 1863–64 was 904,658.

As to sheep, the report before us remarks:

> "One very important feature in its relation to the future of our Northwestern States for the supply of Wool, is the immense numbers of sheep which have gone from this market to stock the rich grazing lands of the Northwest. We only regret that there are no statistics from which we could give the numbers that have been thus furnished. During the month of August upwards of 40,000 head were sent westward from this market, consisting chiefly of the best breeds for supplying the choicest descriptions of Wool. It will be under-estimating the numbers of stock sheep thus forwarded westward as being upwards of 100,000 head during the past year."

Those who are interested in arriving at an estimate of the probable future prices of Wool, should not overlook, as an important element in the calculation, the increase in the flocks to be shorn next season, as compared with former years, of which the foregoing furnishes some indication.

Chicago is a very important market for Seeds—both Grass and Flax. The former are mostly shipped to the East, but large quantities of linseed oil are made, and the business in that and in oil-cake is of much extent.

After many tables of statistics, from which the foregoing is but a meager abstract, this report remarks, that the figures given, large as they are, must be taken with the recollection that as yet "but 15,000,000 of the 35,000,000 of acres in Illinois, 8,000,000 of the 50,000,000 of acres in Iowa, 8,000,000 of the 50,000,000 of acres in Wisconsin, 3,000,000 of the 40,000,000 of acres in Minnesota, 3,000,000 of the 37,000,000 of acres in Missouri, and not more than 2,000,000 of the hundreds of millions of acres in the vast territory west of the Missouri river, are under cultivation." One can hardly appreciate the almost boundless resources indicated by these statements, or over-rate the importance to our prosperity as a country, of the wonderful improvements in mechanical art, by which these resources are rendered available.

Cashmere or Angora Hair.

I have just received from the factory, three blankets—beautiful, white, soft and fine, made from Cashmere hair and Spanish Merino wool, worked on the usual machinery of a woolen factory. All who have seen the blankets are perfectly satisfied that for such use the goats are an important animal—in short, a rival of Merino sheep. These blankets have proved more satisfactory than I anticipated. I shall have some more made this season. The manufacturer of these is R. Playford Cook, of Cook's Mills.

I will now give his statement as rendered to me, viz., six pounds of hair and six pounds of wool was left with him, from which he made seven and a half yards of blankets, two yards wide—spun 11¼ cuts to pound, the yarn extremely strong, and that the blankets will last 50 years. I paid him six dollars for making and finishing. I very much regret that I did not leave more with him, as we much prefer these to all wool. **John S. Goe.**

Near Brownsville, Pa.

Fruit-Growing and Wine-Making in California.

SAN FRANCISCO, Feb. 10, 1865.

MESSRS. L. TUCKER & SON—The road on our return to the village, through miles of vines, wound most gracefully around the inequalities of the ground at the base of the hills, as graceful as through any lawn; and our return was marked by the same unalloyed pleasure as our starting, leaving only pleasurable impressions. One of the most marked features in the cultivation of fruits throughout the State, is the *thorough cultivation they receive*, being kept entirely and absolutely *free of all weeds, and the surface soil receiving the most thorough cultivation.* This is one of the most beautiful and attractive features of the country. I have not in a single instance seen an orchard neglected and grown up to weeds and grass, hogs and cattle browsing and feeding on roots and branches, here one broken off, there another dead, most dying, none thriving, those not dead struggling for existence amid grass, sod and weeds, and suckers permitted to sap what is left, or the trees overshadowed by a corn crop, where the plow will tear the roots and the whiffletrees girdle the trunk with deadly wounds. Planted as trees usually are at the East, and cared for as they are there, it is no wonder that they fruit so late, and so little. The only wonder is their fruiting at all. The orchard trees here are thickly planted, with a view, I presume to thinning out, but of this I cannot speak by authority. I cannot give the number of acres planted to vines in the Sonoma valley, but calling it six miles from the most northern to the most southern point of our visit, and half a mile deep, which it is not, and it would give us in round numbers some two thousand acres planted to the vine. There is much no doubt planted throughout the valley which we did not see, but I do think the above estimate of two thousand acres, is not far from the total amount in the valley.

In the afternoon we visited the wine cellars of a son of Col. Harazthy, who married a daughter of Gen. Vellejo. He is engaged in the culture of the grape, and the manufacture of wine, from the estate of his father-in-law and others, and the remarks made by the writer relative to his father, will also apply to the son. A more affable, courteous, gentlemanly young man, it has never been my good fortune to meet.

At the association the grapes are crushed by passing between rollers; here they are all crushed by being treaded, the young man insisting that it made the best wine. He has certainly excelled. Here we were told that California produces but two kinds of wines—the white and red, sour wines of a heavier body, and in many respects superior to European wines of the same class. A most delightful port and sweet wine is made at Los Angelos, but I am told are sugared or manufactured, and not the pure juice of the grape fermented. The natural wines are simply the juices of the ripe grape fermented, which makes the sour white and red wine, and the sweet wines have simply sugar added to the juices. Better wines I certainly have never drank—or to my taste—than some I have drank here.

The wines and vines of which I speak, are all from the old Mission vines, known as the Los Angelos or native grape. The old fathers of the church in the earliest history of the missions, no doubt imported from Spain a variety of the choicest vines, and after a thorough trial reserved the best, and discarded all the rest. It is sweet and delightful in flavor, and we ate of some in the valley extremely rich, and it is a most generous bearer, but I have eaten of much market fruit here which was inferior to the Croton grape. Especially does this apply to the Isabella grape, of which I have eaten none here so good as those in the New-York market. It may be that after frequent eating of the native grape, I required a higher excellence, but I think not. I think the Isabella grape here, much more sour and inferior in flavor to what it is with us.

I must say, that on the whole I have been greatly disappointed in the size and flavor of the market grapes here sold. As regards size, they were mostly much smaller and inferior in flavor (so it seemed to me,) to the Croton grape. They were about the size of our Jersey Catawbas. So much had been said to me of them, that I could hardly realize that the fruit I saw on sale was the far-famed California grape, and I pronounce most of it inferior in size to the Croton grape, and in flavor. Of the grapes I ate in the Sonoma Valley I make an exception; that fruit in flavor and in size of fruit and bunches, greatly excelled anything I have ever seen or eaten of at the east, except hot-house fruit, and I am not sure but at daddy Strater's, the grapes there eaten were finer and richer in flavor than any I have ever elsewhere eaten.

I think Col. Harazthy informed me that of all the foreign varieties he had tried, that none were equal to the Mission grape.

At Suscol Landing there was formerly an extensive nursery, and it is now converted into an extensive fruit and market garden. It is owned by the brothers Thompsons, who received us as strangers in the most cordial manner, and extended unlooked for courtesies. The orchard is the largest I have anywhere seen, covering some hundreds of acres, and so cleanly and perfect was the culture, that in our walk of two or three miles I did not see one weed.

The house is large and fine, surrounded by the only evergreens we saw in our whole trip. The avenue to the house was lined with fruit and ornamental evergreens, among which was a cyprus, that very closely resembles our red cedar.

Here I saw my favorite Norway spruce. Near the house was a very fine sugar pine, the wood of which is very like our eastern white pine, but the foliage it seemed to me was finer. This tree, near the kitchen, was thirty two feet in height, and the seed was planted in 1857, the tree only seven years from the seed—the most remarkable growth I ever noticed. It must have been near 12 inches in diameter.

Broad, generous avenues extended for miles throughout the grounds, mostly planted to fruit trees. There were many thousands of standard and dwarf pears and standard apples, but the fruit had been gathered, and we could only admire the beautiful culture the trees had received, and surely it would gladden the heart of any lover of the country to look on the admirable culture those orchards and grounds had received. Nowhere out of California have I seen such perfect cultivation, and all of the house surroundings and barn of the same type of neatness. In place of several barns and sheds he had but one—immense, much the largest that I have anywhere seen. Here were all the implements and machinery for an immense establishment.

One of the most lucrative branches of his fruit are his cherries, and they sell from one bit to one dollar per pound. The birds devour them unless they surround and cover the trees with netting. Cherry trees are short lived, and though they bear enormously, yet the black knot and gummy discharge soon destroys them. As it is on tide-water, grapes and peaches do not do well.

The few hours spent here were most delightfully passed, and though I did not ask, and do not know yet the two brothers and their father, who was absent, I think must yearly derive a very handsome, if not large, income from their estate. The order, the system and the neatness throughout, was admirable.

The city steamer lands on their grounds, taking daily their produce, which is sent to a commission merchant, and each day brings back the empty boxes and barrels, and bags. "OLD HURRICANE."

Sweet Potato Culture in Gloucester Co., N. J.

L. Tucker & Son—*Respected Friends:* In response to your inquiry, "if the sweet potato is not a speciality in the planting of your county," &c., I will say, that it is probable that this vegetable is cultivated in the county of Gloucester to much greater extent, to much greater perfection, and also to greater profit, than in any other county in the United States. Decidedly it is our staple crop. If statistics were within reach to show the amount of money brought into this county during the last ten years, it would surprise many of us who are somewhat familiar with the extent of its cultivation, and be looked upon as an exaggeration by the inhabitants of much richer counties in other States. The quality of the potato, both for the table and preservation, is best when grown on light or sandy land, but the crop is not so large as when there is considerable loam, underlaid with clay; on this kind of soil wheat often follows, with clover and timothy, which is mown for two or three years before it is plowed for corn, to be followed by potatoes. The more sandy land is sown with rye; but very frequently when either quality of land is found well adapted for their growth, they are cultivated for a number of years in succession, without much diminution of the crop or apparent deterioration of the soil.

A clover sward, if designed for this crop, should be plowed in the fall or early winter, well harrowed, and skim plowed, or thoroughly pulverized with the cultivator in the spring, just before the ground is marked out for manuring. Land under cultivation the previous year, especially if light, should be plowed only about three inches deep, and I have known some very successful growers who used only good cultivators to mellow the soil, being satisfied that the crop was both larger and the potatoes better shaped for shallow stirring. The ground is usually marked out both ways with a one-horse plow, the rows being 33 inches apart; then a full quart or more of well rotted manure is put in each hill with a shovel from a cart, the horse walking in one furrow, the wheels running in those on each side. Much of the manure is bought in Philadelphia in the fall or early spring, and previous to this year at a cost, with freight, of $1.25 for a cart-load that would do for 300 hills. If the manure is from our cow-yard, it is necessary to put it in conveniently situated composts in the field, as soon as the frost will allow, covering an inch deep with surrounding dirt or marl carted for the purpose. The manure is thrown loosely on the heap with the fork, to hasten its heating, and it must be turned and well shaken up, which with long manure has to be repeated two or three times, in order to have it rotted enough to cut with a shovel. It is better that the manure should have a hoe full of dirt put on each hill as it goes from the cart. In this state it is left until the day the plant is ready to be put in, which should be about the twentieth of the fifth mo., (May,) or as soon as there ceases to be any danger of frost; the hill is then made by adding two or three additional hoe-fulls of dirt. When setting the plants, by running the hand down, get the root into the manure if possible; if the ground be dry, it is better to water the same evening. The seed is sprouted in hot-beds, made about the first week in the 4th mo., (April,) by selecting a sheltered place fronting the south, and taking the dirt out about a foot deep, 6 or 7 feet wide, and long enough to hold the seed, laid carefully side by side a quarter of an inch apart; a basket full (three pecks,) will—if the hot-bed does well— pull about 5,000 sprouts, or enough for one acre; medium sized potatoes are used. Previous to filling the bed with manure, which should be from the horse-stables, of the best kind, the sides are lined with boards or slabs, with stakes to keep them in place; the manure should be shaken in lightly and evenly to a depth of from 12 to 15 inches, on which spread about two inches of fine soil or sand, lay in the seed, and cover them with as much more dirt of the same kind. Then coarse hay, to the depth of two or three feet should be put on, and by boards, or covering of other kinds, the rain kept out. Daily care must now be taken to watch the heat of the bed,—by forcing the fingers down into the dirt,—as more hot-beds are injured by too much heat than by cold. It may generally be cooled sufficiently by removing the hay for a short time; if not too warm this need not be done, and the hay may remain on until the sprouts are above ground; when in the middle of the day, the bed should be cleared to the sun for a few hours; but for the first day or two a very little hay must be left on, or the tender sprouts will be burned by the hot sun. When the plants are ready to put in the hills, care should be taken in pulling them to have as much root as possible, and not to pull the potatoe out, as there will soon another crop of sprouts shoot up for later planting, if the bed is kept *damp*, as it should be, from the time the sprouts get green, by artificial watering—with not too cold water—should there not be seasonable showers.

They are generally hand-hoed three times: the two first directly after passing the cultivator both ways once between the rows, which is previous to the vines getting so long as to require turning. For the last hoeing, every other space is cleared of the vines by using a stick to turn them; then throw a shallow furrow, with a one-horse plow, to each row; clear the intermediate spaces of vines, and serve them in like manner. If the previous tendings have been thorough, and at the right time, which is rather before than after the grass starts, but little use will be found at this time for the hoe, the few weeds or bunches of grass being more readily pulled up with the hand; but the rule is, to keep them clean, and this is better done in stirring the surface of the hill by scraping dirt to top, than by allowing the hoe to go deep enough to cut off the small roots where the potatoes are forming.

They are dug with a wide hoe, sharpened at the sides (as well as the point,) with which part the vines are cut off near the hill by one stroke, and with another the whole hill is lifted out, and four rows being laid together, they are carefully put in baskets, and with as little bruising as possible, conveyed to market, or the place where they are to be kept during the winter. Many are stored in bins or boxes, in dry cellars, and some in houses built for the purpose; but in either case, they must not be placed against the outer walls of either houses or cellars, as warm air must circulate around them. The heat should be regulated by a thermometer, and kept as near 55° as possible. Small coal stoves or furnaces are generally used for heating. When the potatoes are dug, the sooner they are got to the place of keeping the better, and they should not be moved or disturbed until they are wanted for use, for in a few days after moving they will begin to decay.

Those who desire a good sweet potato in winter and spring, should procure them early in the 10th mo. (October) from some reliable grower, and in the shortest time, and with the most gentle handling, place them where they are to remain until wanted for use. We who live where the climate and soil perfect them, seldom find the sweet potato north of the city of New-York, and especially at this season of the year, of a quality we care to eat. And by the way, to be good, they should always—after the first fall month—be *roasted*, and not boiled.

This answer to your letter is longer than is desirable; but how to make it much shorter, and have it practically useful to the inexperienced cultivator, I have not been able to see. J. C. Tatum.

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TOP-DRESSING MEADOWS.

We need more experiments in top-dressing grass lands. We must, however, remark at the outset, that scattering straw in bunches, manure in lumps, and compost in clods, is not top dressing, or at least not deserving of the name. The efficacy of spreading manure finely and evenly on the surface is well-known. If done early in autumn, it is found to be more efficient than when performed at the beginning or during winter; and it is more useful in winter than when delayed till spring. There is more than one reason for this difference. One, a well-known one, is the solution and washing down into the soil of the enriching parts. If the work is done early, more time is allowed for the full completion of this process by the whole rains of autumn, winter and spring. Another reason is the protection afforded to the grass plants from cold and sweeping winds by the covering spread above the roots. When the top-dressing is scattered early in autumn, the protection and enriching together, and the tendency of the top-dressing to preserve moisture on the surface, causes immediately a rank growth of green grass; and this rank, green growth will often render the dressed portion conspicuous from the rest when seen a long distance. This increased growth not only renders the plants stronger at the root, but gives them an additional covering against the cold of winter.

So far, but little has been done in the way of top-dressing with other substances than fertilizers. A few experiments have, however, proved that the mere mulching—the covering of the surface for the purpose of protection, and for giving depth and strength to the roots, has accomplished important results. A. B. Dickinson's mode of spreading a finely pulverized stratum of earth over his meadows, by irrigating with muddy water, is well-known—by which he has obtained three tons of hay and upwards per acre from his large meadows. A striking experiment is mentioned in the Country Gentleman, p. 10, of current volume, by a correspondent at Pepperell, Mass. He spread at the rate of about a thousand bushels of muck per acre, which had been somewhat enriched by the manure of swine. This would form a coating less than half an inch thick, if spread perfectly even. The result of this top-dressing was two crops of grass in the same season, both amounting to five tons per acre. The experiments which we need in relation to this subject are the application of various substances to the surface of meadows, in order to observe their various results. These substances must be capable of fine pulverization—for if thrown down in lumps or heaps, so as to be several inches thick in one place and entirely absent in another, they cannot accomplish a great deal of good. Saw-dust, which is abundant in some places, may be spread with great facility, but its light and porous nature would probably render it less valuable than an equal coating of strong soil. It is, however, well worthy of experiment. Fine peat or muck, dry enough to form into powder, might be spread with nearly as much facility, and would doubtless prove more efficacious. Lastly, and much the best of the three, and only inferior to manure and compost, is alluvion, or the washings of strong, fertile soil. Being free from stone, and of a fine even uniform texture, it may be spread evenly, when dry enough, without difficulty. The best way of spreading it, unquestionably, is to adopt the Dickinson mode of carrying it over the surface by streams of water, after excessive rains. There is another material which may be used for this purpose, the value of which experiment only can prove—namely, fine or coarse sand, or dry quick-sand.

The writer once owned a meadow, a part of which was annually inundated by a turbulent creek, which left at every flood a thin coating of fine sediment. This sediment did not contain any unusual amount of fertilizing matter, for it was merely the washings from the country above. But the result was an annual and certain crop of at least three tons of hay per acre; while the remainder of the meadow above high water mark, although possessing apparently as fertile a soil naturally, yielded a varying return of a ton to a ton and a half. There may be many instances in which farmers could imitate this top-dressing by applying the different substances already mentioned to their meadow lands, during the comparatively leisure season of winter.

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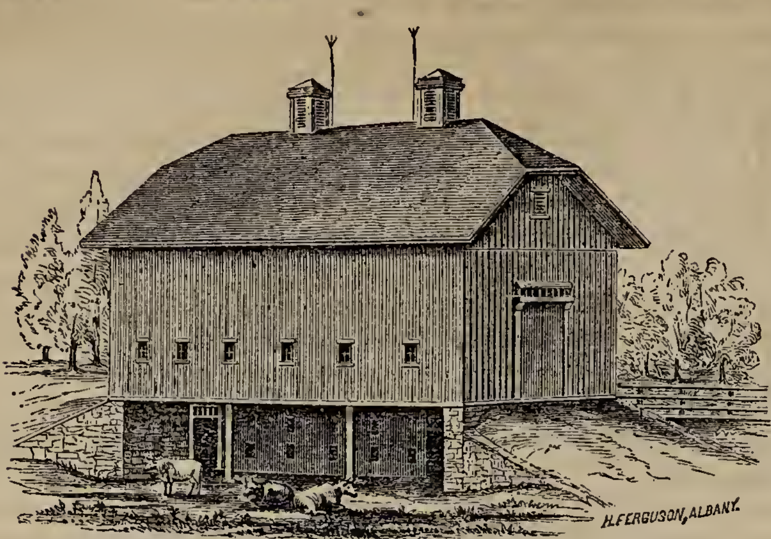
SMOKE-HOUSE.

If "Lincoln" builds his smoke-house of brick, it will not be dry enough to keep ashes in, nor so good to smoke his meat in as one built of wood. Ashes kept in a brick or stone building become damp, which injures them very much for soap-making.

I recommend (from experience) a building of wood, the four corners of which rest on blocks of stone, which raise the building a few inches from the ground. The lower half is lined with brick, and the floor, which is of stout oak, is also covered with brick. This secures it from any fire in the ashes, and it is perfectly free from any dampness. The fire for smoking the meat is made in an old iron pot, which is set down nearly to the floor, as far from the meat as may be, and is readily covered, in part, to secure a slow fire.

The door is in the upper half of the building, above the lining. The brick lining is laid in mortar made of clay, instead of sand and lime, and is not affected by any chemical action of the ashes. N. Reed.


H.FERGUSON,ALBANY.

BARN ARCHITECTURE.

It is a deplorable fact that farmers generally, in setting about improvements that often occupy a lifetime, and are supposed to embody the results of mature judgment, make less use of previous plans and systematic thought than most other business men. It may be some palliation that unexpected changes are made as capital is acquired, but if it were possible to strike out any general principles to guide the commencement of operations, future additions would not prevent the whole work from being in harmony. Through most of the middle States barns are built much after one model. Commencing at one end we have a row of horse stables, then driveway or floor, then another row of stables or bay for hay, making from 30 to 40 feet in length. If the barn is wide enough to more than hold a wagon with its load, a a small mow is laid on the girders in front of the wagon. Unless the posts are very long. the back of this mow is up to the rafters, demanding much care in filling, it that it may not tumble over on the wagon.

This style of building was first innovated on by the introduction of cellar-stables. The stock being put down stairs, the hay-mows were dropped down even with the floor, and a practical addition of 7 or 8 feet thus made to the height of the barn. If the building is not more than 40 feet long, it now does pretty well, but if more than that, it is unhandy to fill the mows from the floor, and there must be either windows or another driveway, or great carrying of hay when labor is worth double rates. Nothing short of an exact duplicate of the ground plan works to the best advantage. What do we build barns for? To shelter our stock and our crops, and especially to cover our stock and their winter keeping, and incidentally to make manure and do certain kinds of work in.

Stowage capacity then for animals and fodder, convenience; that is, economy of labor in filling the barn and feeding the stock, are the essentials of a good building, and it is frequently advantageous to have it capable of enlargement by any required amount, and without inconvenience. Perhaps some advantages may be gained by making the driveway parallel with the ridge of the roof, and an end section of such a barn would appear as follows:

It will be observed the interior lines of studding, *a a.*, run from foundation to rafters. If they are 12 feet apart, they divide the mow in bays of convenient size, and all the hay may be put in by a horse-fork, commencing on the end opposite the entrance and laying poles across the driveway on the string pieces, the space of one bay os 12 feet. The side part of the bay might better be first filled, and a movable apron used. When the first bay is filled, lay another, and so the whole length of the barn, and no hay will have to be swung more than 12 feet from the wagon. The poles may be slipped on the side mows when not in use, and the last bay filled through a window over the doors. Suitable well holes being left at intervals, a barn may be filled in this way chock full without any handling on the mows. The posts should be so long as to keep any one from ever thinking about stowing away in the peak, for that is a job that, with dusty hay and no air, enough to drive a young man off from farming for life.

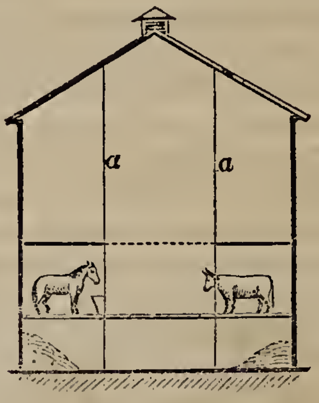


Fig. 1—Section of Barn.

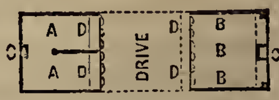


Fig. 2.

Fig 2. ground plan of one section of Stable Floor—A. A., horse stables; B. B., cow stables; C. C., manure traps; D. D., mangers.

It is quite desirable to support the girders of a barn with studs at short intervals as it obviates the necessity of searching for very large sticks to be strong enough to span 25 or 30 feet. If the heads of the stables are turned to the wall, the cows in stanchions, and the partitions of the horse stables short, a very narrow barn may be fixed this way.

The manure cellar is traversed by a driveway in in the same manner, and if sufficient attention is paid to making it, will not be found too large. In places like Chester Co., Pa., where the ground is very rolling, some barns are built three and even four stories, the upper floor as close to the peak as possible, which was very nice before horse-forks came out.

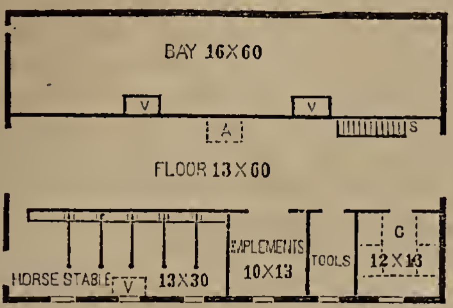
Supposing the central studding to be 12 feet apart, it makes two horse or three cow stables, wider than usual, under each bay, but any one can suit his own notions on the proper width by changing the distance of the studs. On such a plan every additional bay is precisely like the preceding, and a barn built for five animals might be enlarged for fifty without disturbing its previous arrangement.

Where it is necessary to make a high incline or sloping road to the doors, the part next the barn is sometimes made into a wagon-house, the road being planked on the roof. It is also a good place for a horse power, being close to where the machines stand, and yet out of the way. I have seen a cistern in such a place filled from the roof, and the water would run in the yard below through a short pipe by turning a cock.

Barns like this are beginning to be built in Burlington Co., and seem capable of furnishing great conveniences, to those who use good judgment in adapting them to their purposes. W. H. S.

Woodbury, N. J.

These suggestions for the construction of barns are well worthy of consideration. Our correspondent will find on page 133, vol. 3, Rural Affairs, a plan quite similar to the one he describes. For the purpose of illustrating more distinctly his meaning, we copy the plan of the principal floor, and give the perspective view at the head of this article, of the barn, in order to show the manner in which the wagon passes in at one door and out at the other, without backing.]



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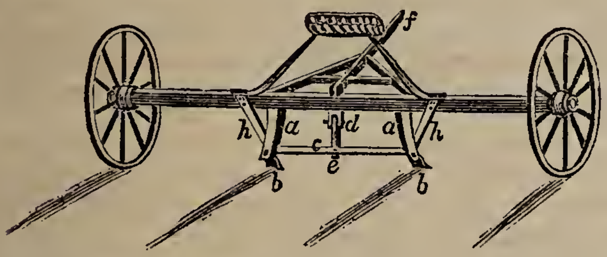
CORN-MARKER.

This corn-marker is attached to Alzerin Brown's Wheeled Horse-Rake. The rake-head and levers are easily detached, the marker attached, and vice versa. The wheels of this rake stand apart 8 feet 3 inches, which, divided by 3, gives 2 feet 9 inches as distance between rows, which is right for us. The scantling *a, a*, are 3 by 3 inches, with a mortice in one end for an old cultivator tooth, *b, b*—a sny bill at the other, to attach it to the under side of front crossbar on the thills—*c* has a mortice, *e*, in middle for insertion of link *d*—*c* has also two long gudgeons inserted in large staples in sticks *a*, to give independent motion up or down. Link *d* is also attached to lever *f*, on crossbar *g*. By putting the foot on lever *f*, the teeth are raised clear of obstructions, and for turning at the ends of rows; the boards *h* are screwed outside the lags to hold them longitudinally. By tracing one mark with each alternate wheel, the machine marks three rows at once on the roughest of ground. It has the advantage of a seat for the driver, (not shown,) marking three rows at once, or four if you fasten a long pole just forward of the wheels, with a light chain at each end to trail in the last mark. The wheels make a very distinguishable mark, and last, but not least, you come very near having two handy tools in one. H. Hollister.

Mount Lebanon.



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Farm Grist Mill.—After using a Burr farm mill one year, I would not recommend them to any one without water or steam power. They will suck more flesh from your horses than all toll and convenience will put on; besides a small stone will not grind so fine as a large one. My water power is abundant, and by running 300 to 400 revolutions per minute it does well; I am well pleased with it; I grind all my grain that I feed; mine is a two foot stone, but velocity will not make up for size, for when the grinding surface is less, the grain comes out sooner. L. F. Scott.

Pruning Apple and Peach Trees.

I should be much obliged to you, Messrs. Editors, if you would give me your opinion in regard to the proper time for trimming orchards. There has been a wandering orchardist in this locality lately, who advises to defer trimming till the trees shall be in bloom. Our custom has been to trim in February or March. If the former plan is a better one, we should be glad to know it through a better and more reliable authority. I would like to know, also, how it would do to cut back peach trees, of say six years growth. I have an orchard, the limbs on the trees of which have grown too long and switchy, so that when the fruit on them, only a fair quantity, reaches its size and weight, the trees break down or split down rather. If it would do to cut the ends off the limbs, and not injure the trees thereby, I should be glad to know it from some one of experience. H. B. P. *Concord, Pa.* [Trimming after the leaves have expanded, causes the wounds to heal best, but it always checks the growth of the tree, and should therefore be applied only very sparingly, or else to rank growers. Peach trees may be pruned successfully by cutting back several seasons' growth, taking care always to cut at a fork, so as to leave no stump—the smaller branches at the fork may be left. Care should be especially taken that buds are left for new shoots. Three or four feet may be taken off in cases of necessity, at a single stroke, and if judiciously performed, will convert the broad head, which is beginning to become enfeebled, into a smaller, neat, round and open head, possessing all the thriftiness of a young tree, and bearing as large and excellent fruit. Fig. 1 shows the tree before being thus cut back, and fig. 2 the same with all the ends of the branches, shown by dotted lines, removed. It must be remembered here, as in all other instances, that the outer shoots must be sufficiently *thinned-back* to admit light to the interior. The shearing which is sometimes adopted, like that of a common hedge, only thickens the foliage on the outside, and increases instead of diminishing the evil.]

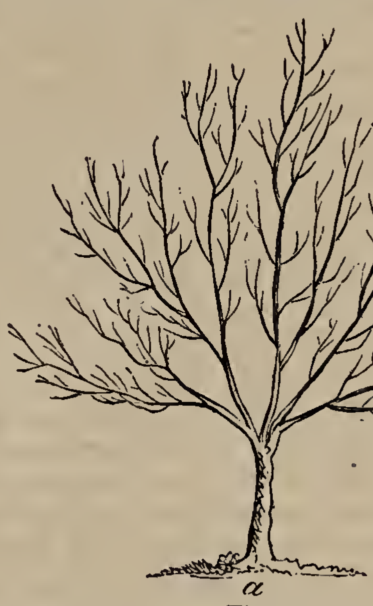


Fig. 1.

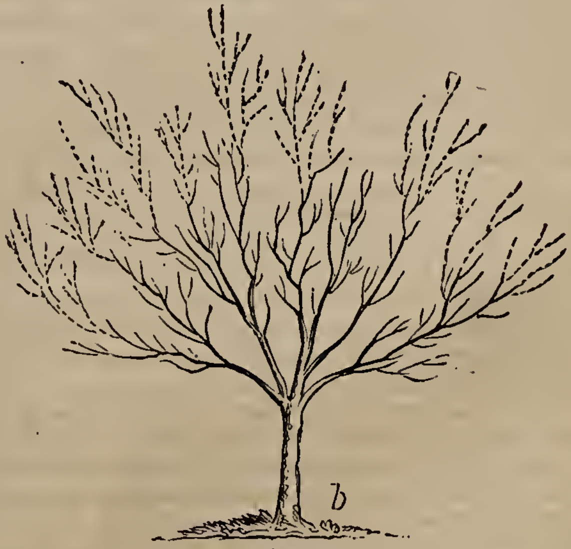


Fig. 2.

ON BITTING COLTS.

Having spent the most of my life among horsemen and horses, and have bitted and helped to bit some hundreds of colts, and drive more or less every year, I claim to know what kind of a mouth a colt or horse ought to have. In the first place, I take a green colt up from the pasture, put him in a loose box or stall, not give him any feed that night; the next morning I go into the stall; of course the colt, if a wild fractious one, will jump and snort; have a good head bridle with a good snaffle bit, with arms or check pieces on, and a good ring in the centre with 3 or 4 good tinglers attached to the ring to keep up the circulation of blood in the mouth or tongue; be sure and have the bit even, for this is one of the greatest points in having an even mouth. I sit one hour with a pair of calibers and a fine file to get both sides of my bit even and alike. I said the colt may start and be wild: do not stir or move, but look him straight in the pupil of the eye as stern as possible, yet look pleasant, show no fear; look at him until his ears begin to move, then approach him gently with a bit of hay, or an apple, or an ear of corn, or some oats in a measure; have the bridle on your arm; do not show it to him carelessly the first time; let it swing, and let him nibble or eat the oats; talk to him—there is nothing a horse or colt likes better than to be caressed; pat him on the neck the next time, which will be the next morning. You can feed him the first morning after you have got acquainted with him, and at noon; none at night. The second morning have the bridle on the measure, let him smell of it—show it to him; if he is not afraid, let him eat his oats so that the bits will hit his nose; put your finger in his mouth where the bits ought to go if he is willing; if not, wait until the next morning. Try him again; by no means hurry the process; keep cool and have patience. The colt will come to it quicker and far easier than to foam and fret and grow old, while the colt is getting ugly every minute. Try this for a week; when you get so that you can open the mouth with your finger, and the colt is perfectly willing, just throw your right arm over his head or neck; talk to him all of the time—he will soon put his head down; then raise the bridle so that you can catch it with your right hand; if he starts or jumps, keep quiet; do not move; have your oats ready; let him eat some; get so that you can handle his head with the bridle in your hands. You can soon get him so that you can handle his head for half an hour—will do wonders. When you get the bridle on, be sure and take it up the first time, so that he will not get his tongue under the bit. What is worse than to drive some farmers' horses with the tongue over the bit? I once let one of my neighbors have my bitting rig to bit a colt. I wanted to get his opinion, and tell him my way, but he knew it all, and on he went. In about a fortnight I sent after my bitting rig, and told the boy to ask how he liked it. "Oh, just as lief have a common bit, and tie the side reins on the surcingle; don't know as it makes any difference about a horse's mouth so long as I can turn him out one side; good thing to make a great show with such things." I have noticed the same colt a great many times since; nose poked way out one side, no neck, and goes stumbling along. I for one could not drive such a horse.

After you have got the bit in his mouth, let him wear it about 15 minutes, then go up to him and gently take it off. I always unbuckle the bit and let him spit it out. Do the same the next day; let him wear it a little longer, and do so for one week. Increase the time of wearing of one hour for a week—that is, at the end of the week let him wear it for an hour every day for a week; lay your right arm over the withers where the girt or surcingle comes, and pat his neck with your left hand. Be kind and gentle with him. After the first ten or twelve days is up, put on the side reins and check; then the surcingle with a back strap, good and stout, with a large crupper well greased and stuffed hard—a small one is apt to gall his tail, and make him kick or rub the hair off. Have the surcingle seven inches wide, with a good strap in the centre over the withers, with a good stout ring on the back side towards the tail; have the strap loop in front for the check to go through, the ring for the back strap or crupper; then on the sides have a buckle, you cannot have it too stout; this buckle is for the side reins from the bit back or opposite of the buckle; this is for a britching. Have three small one inch buckles to buckle the surcingle, as there is a hollow and a rise on the colt where the surcingle comes, and three buckles and three small straps will make it fit these. Do not draw the colt up the first week; just buckle the side reins in the surcingle; let them be loose and hit against him. Let the check be loose; as soon as he begins to play with the bit, begin to draw it up gradually, for a week only an inch at a time every day. Bit your colt for the purpose you intend to use him for; if for the road, set the nose out a little—for the team, a little under. A draft horse always curbs his neck; a roadster puts his ears back and forth, and tries to snuff the air and see what is going on—the same with the trotter. The trotter should be well lounged as soon as he gets used to the bit. After you have got your colt used to the bitting rig, you should learn him to lead by it, say a half hour every day, no longer. It will do to let him run in a lot with it for half an hour, if you cannot spare time to lead him about; but they ought to be led, and made to go where you want them to. After your colt is used to all this work, put the quarter strap through the back strap, and put on the britching; draw it tight; not too low, for it would make him interfere. Hitch him in the stall until he gets a little used to it; then teach him to back. Never pull or twist him about, as I have seen some breakers do; be kind to him.

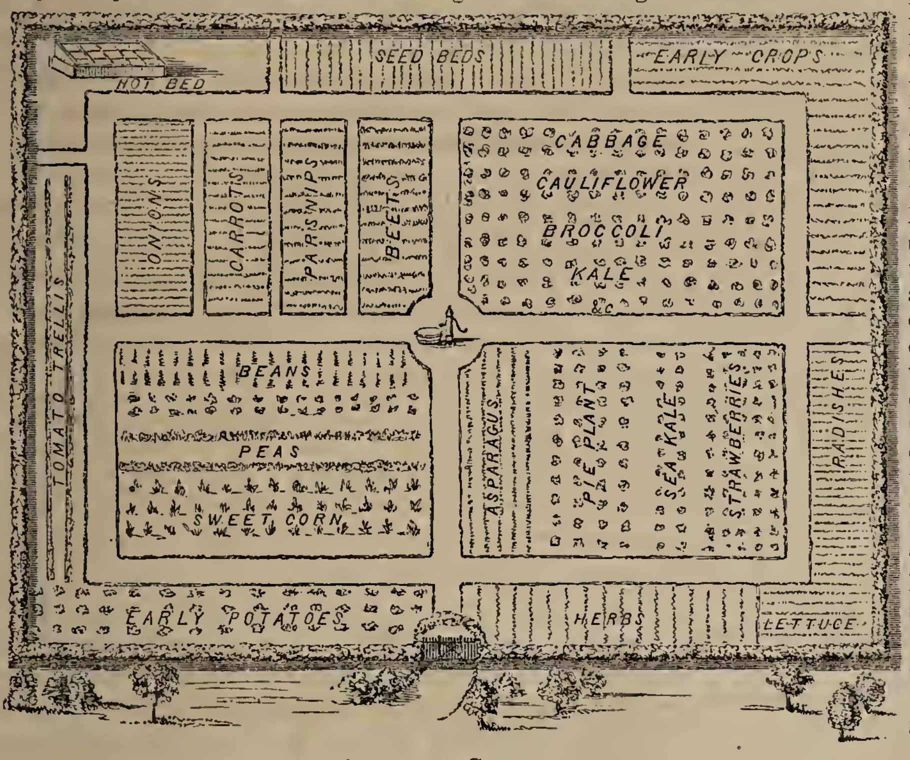
After all this is taught the colt, take a good whip, but never whip him; take some oats, let him smell of them; by this time he is willing to touch anything with his nose. Yet be gentle with him—never frighten him; brush his head with the whip, rub him all over with it; then when he is used to it in this way, begin gently to crack or snap it as loud as possible. My object in this is, as soon as you take him on the road no teamster's whip will frighten him. Get him used to an umbrella, buffalo robe, wagon, &c. The next thing, put him in a wagon, hitch him on a barn floor to a post both sides; let him stand, or have him hitched so that he can go ahead or back a little, as he likes. Let him get used to the wagon and noise, when he will move it along. After three days lead him on the road; drive him with a pair of long reins from behind the wagon. On the barn floor try to back him; if he does not back, take a good gentle farm horse, hitch him behind the wagon, start him up gently, speak "back!" to the colt distinctly; at the same time have a boy at the old horse's head to start him when ordered; the colt will soon learn to back, and will always be gentle. I have broke hundreds in this way, and never had a bad colt; no matter how wild on the start, I could always conquer them.

If a colt should lean a little harder on one side of the bit than the other, wind a piece of listing on the opposite side of the bit from that which he pulls hardest on; this will straighten his head. Always drive a colt with a large snaffle bit with check pieces, and always teach a colt to mind and fear you; to do this, never be afraid of him, and always have an apple in your pocket for him. H. N. THURBER.

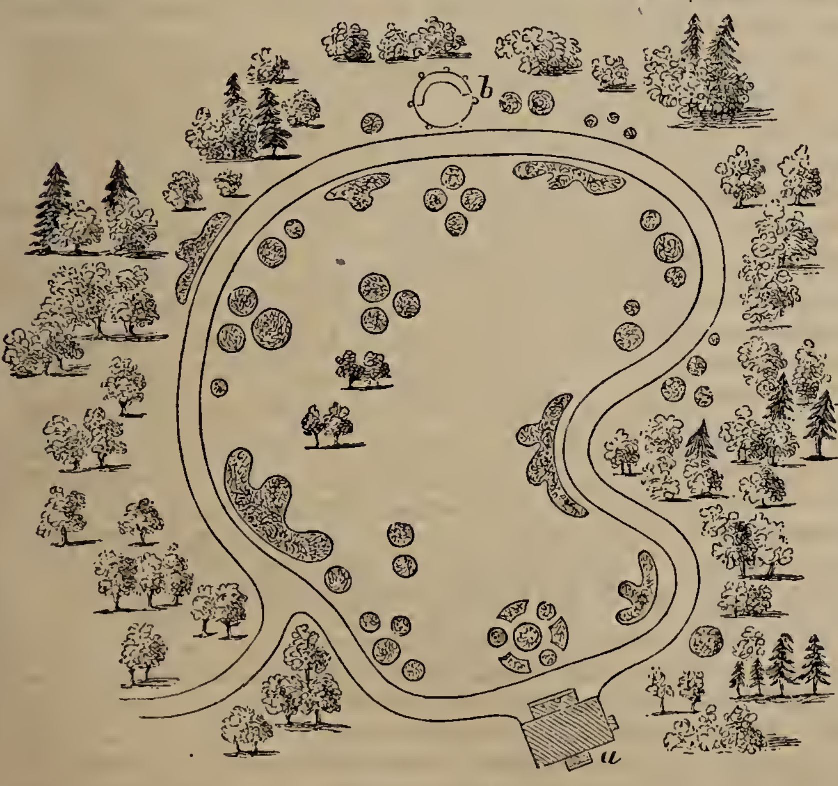
Pomfret, Conn.

HORTICULTURAL INQUIRIES.

Plan for a Garden.—Having perused the valuable columns of your Cultivator, with a great deal of interest, I don't find any part allotted to farmers' wives and daughters. I feel interested, and wish to make some inquiries. Owing to ill-health I am recommended to out-door exercise, and have a very rich piece of land staked off for a garden. Wishing to plant that which will be valuable, and some ornamentals, I apply to you for a plan, and your best mode of planting a vegetable and flower garden, and what vegetables it would be best to plant. Mrs. A. Decker. [The above engraving represents a good plan for a kitchen garden which is spaded, or entirely worked by hand. It may be reduced in size, according to circumstances. We prefer a flower garden separate, but if impracticable, borders may be placed along the edges of the four quarters. The best style for a flower garden, both for beauty and economy, is to extend a gravel walk, by a constant and varying curve around a small, closely shaven piece of lawn, cutting the flower beds in circles, ellipses, or arabesque forms, as shown in the second figure—*a* being the dwelling, and *b* the summer house or seat; the white portion is the grass, which should be mowed at least once a week, and never allowed to grow more than two inches high. Such a flower garden as this may be kept in perfect order at one fifth the expense of one with the whole surface cultivated. The size may be varied indefinitely.]



Plan of a Garden.



Flower Garden.

Lengthening of Trees.—The answer which you gave in reference to my query respecting the lengthening of the trunks of trees, in the 7th number of the current volume of your excellent paper, appears to me to be not "according to the books," as I understand them, as you have there decided that the bodies of trees do continue to lengthen even for years. I will now take the farther privilege of asking whether, by that answer, you intentionally denounce the theory of vegetable physiology as heretofore taught, and if so, will you be so kind as to explain the principle on which the wood of the centre of the trunk is lengthened, for of course this must take place, according to your answer? A Furnas. [Works on Vegetable Physiology, so far as we have observed, are silent on this particular point; and our observations are limited. The lengthening is of course extremely slow, and the amount never becomes great, even after the lapse of years, unless in the earliest stages of growth. If our correspondent will turn to page 146 of Gray's First Lessons in Vegetable Physiology, he will find a representation of woody cells lengthened by growth in its early stages; as the tree becomes older, the lengthening is diminished till it ceases. The elasticity of wood, or its capability of lengthening slightly, is shown every time a stick is bent without breaking.]

Peas in Orchards.—Having an old orchard, (occupying about four acres, some of the trees being dead.) which has been in grass for some time, I wish to plow it, as it seems to be turf-bound. How will it do to sow peas? But peas being a new crop to me, I should like some information about them. Will they do as well in the shade as other crops, such as potatoes, barley, &c.? Is there more than one variety of the field pea, and if so, which is the best? What time should they be sown; or would it be better to drill them? Any information would be thankfully received by F. C. W. *Columbus, O.* [No crop succeeds well in shade, and if the trees are broad and spreading, a shallow plowing alone may be sufficient. Sometimes a top-dressing with manure, with subsequent close pasturage, answers well for an old orchard. Corn or potatoes would be better than peas, as these crops require hoeing. No sown crop is good for an orchard, and such crops frequently do more harm than good. If many of the trees are decaying, a new orchard should be planted on other ground. Peas are usually sown about corn planting time or earlier—drilling would doubtless be better than sowing them broadcast, as it would deposit them at uniform depth. There are different varieties—some prefer the Marrowfat for field sowing--but experience does not enable us to speak confidently as to the best variety.]

Grape-Cuttings.—I have some cuttings from grapevines which I wish to try my hand at growing this spring. A. C. in Co. Gent. of Jan. 5, and F. A. Fleming, Feb. 16, tell how to grow them, but they do not tell *when* to put them in the ground, nor *how to keep* them till that time arrives. Will you please inform me on these points in next issue of your paper? R. B. C. [Grape-cuttings are easily kept in damp moss, or in moderately moist soil. The cuttings should be set out in open ground as soon as it can be rendered mellow, and worked properly—the soil should be pressed closely about them—they should be ten inches or a foot long—placed in an inclined position, with one bud at the surface. Cuttings in open ground often fail; they are much more certain under glass, for the mode of managing which see last Register.]

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Sales.—John S. Goe, near Brownsville, Pa., has sold three Short-Horned heifers, and two Morgan mares, to D. H. Ryall; also one Short-Horned calf to R. S. Smith.

GROWING OATS.

Messrs. Editors—The oat crop is getting to be of very considerable importance, and the vast consumption in the army, and consequent high prices, will be very likely to induce farmers to sow all they can this spring. But aside from this demand, the ease and facility with which oats may be grown on all kinds of soils, and under all circumstances, and the fact that there is no other grain that is so handy, or in such universal demand for feeding horses, must continue to make raising oats an important part of farming.

But the ease with which oats may be grown often leads to sowing them where justice is neither done to the crop nor the land. There are several ways in which this is often done. One is sometimes practiced on some of the best farms, where wheat is made the leading crop, and is partly owing to the opinion that oats are a very exhausting crop, and consequently injurious to land that is principally intended for wheat. In such cases oats are only sown on some of the poorest, out-of-the-way portions of the farm, and where, from the limited amount of land devoted to the crop, they are sown very frequently, and often several years in succession, on the same field. This, of course, will not give very good crops, and often they will be quite poor, while at the same time the effect on rather poor land without manure, or frequent seeding down, as is generally the case, of course cannot be favorable.

It is also a very bad practice to sow oats year after year on the same field, until the land is so badly run down as to hardly give half a crop. Of course this practice is injurious to the land; and so it would be to grow wheat or barley in the same way. In fact there can be little doubt that either of these crops grown the same length of time on one field, would injure the land more than oats, while undoubtedly they would fail to yield paying crops much sooner than oats.

But while growing oats year after year on the same field is a very bad practice, it by no means follows that they cannot be grown to good advantage in a rotation where corn and clover occupy a prominent place, and where they are not sown oftener than once in from four to six years. In such a rotation oats should always be sown after corn, or some other hoed crop, when, if the land is in anything like good condition, they are sure to give a heavy crop. In this way, in common seasons, my usual average is over 50 bushels to the acre; and instead of oats grown in this way injuring the land, it is constantly improving and the crop increasing. And this is the case, although I have never applied any manure directly to the crop; though when the previous crop of corn is manured, of course the succeeding crop of oats is benefitted by it. I also find that oats is the most profitable sown crop I can raise after hoed crops; and I always want to sow such land, so it may be seeded to clover. And then oats do better when sown after a well tended hoed crop, having a brighter, stronger straw, which makes them much less liable to lodge, or get down so as to injure the crop. They are also less liable to rust, though if sown very late, they are sometimes injured. Like all other crops, they are the surest and best when sown in good season.

But oats are much more apt to rust when sown on an old sod. On such a sod, composed, as is usually the case, of a mixture of timothy, June and wire grasses, oats make a slow and feeble growth in the fore part of the season; but in the summer, when the sod begins to rot, and the roots of the oats begin to take hold of it, the crop comes forward much faster, but makes a kind of a squashy growth of very soft, limber straw, that get down easily, and is very liable to rust. Hence a good crop of oats is scarcely ever raised on such a sod in this section. A good clover sod will do much better, but is usually wanted for wheat or corn, and undoubtedly is more profitable for these crops.

After various trials in growing different crops after oats, I have become well satisfied that it is decidedly best for me to seed to clover with oats. I not only find clover the most profitable of any crop I can raise after oats, but it gives, in a good clover sod, the best preparation I can have for the succeeding crop of wheat or corn. I also find it much better to be satisfied with two grain crops in succession, than to try to grow a crop of wheat after oats. True, a fair crop of wheat is sometimes grown after oats when the land is well manured. But this course requires an amount of manure by manuring for corn, and then again in two years for wheat, or twice in a rotation of some five years, that is more than I am able to make; while I am satisfied that I can improve my land much easier, cheaper and faster, and raise much better crops of wheat, by seeding to clover with oats, and getting a good clover sod to turn under for wheat. And then, by thus seeding down with oats, and then again with wheat, I can raise and have more clover hay to feed to make manure. F. *Orleans Co., N. Y.*

SURE REMEDY FOR ONION MAGGOT.

I have noticed lately several inquiries—"How to destroy the maggot in onions?" For two seasons past I have practiced an accidentally discovered expedient, with perfect success. When the plant *begins* to form the bulb, after first weeding, I draw the earth from it as much as possible, so that the plant will lie down, leaving the small roots below the bulb unharmed; they support the plant, and in a day or two it is erect again, and the *bulb* growing on the *top* of the soil. My opinion, the result of experience, is that the sun is the antagonist of the maggot. I have tried lime, lime and soot, ashes, &c., without success. Having received no little benefit from the various communications in your journal of this character, I feel under some obligations to do what I can to reciprocate as far as in my power; hence these remarks for what they are worth.

Great Barrington, Mass. M. LUDLOW WHITLOCK.

How to Preserve Smoked Meats in Summer.

Messrs. Editors—A correspondent in the Country Gentleman of March 30th, wishes to know how to keep "beef and hams through the summer after they have been smoked." If he will take black pepper and grind it very fine, the finer the better; then wash the hams or beef, and rub while damp, thoroughly, with the ground pepper, a sufficiency will adhere to them to safely protect them against the depredations of flies and bugs through the summer. In the cure of hams he may omit rubbing the skin side. Two pounds of pepper is sufficient for 30 pounds of meat. It may remain hanging in the smoke-house during summer. This will also impart a fine flavor to the meat.

Fern Creek, Ky. HENRY F. VAIL.

GROWING PARSNIPS.

Messrs. Editors—Having had some little experience in raising parsnips, in a small way, with very satisfactory results, both in regard to growing and feeding them, and having seen but very little in regard to other's experience with this root in this country, though often favorably mentioned in the agricultural journals, I have thought that a short chapter on their management might not be without interest or benefit to some of your readers.

I first commenced raising parsnips for the table; and, finding I could raise them with comparatively little trouble, I soon began to raise them to sell in the neighboring village markets. This led to sowing them in drills, in the same way, and at the same distance apart that carrots and turnips are usually sown; but with this difference: they should be sown earlier; as soon as the ground is dry and warm, and in a good condition for the seed to germinate, is probably the best time. I soon found that I could raise parsnips as easily and cheaply as any other kind of roots, for the following reasons:

They have a broader leaf, and are more easily distinguished from weeds when they first come up, and at the first hoeing than carrots; and not being troubled by any insects, they grow and come forward much faster than turnips or carrots, making less trouble to tend them when small, while they much sooner get the start of the weeds. They make a much more rank and vigorous growth, and much sooner and more completely cover the ground than carrots or turnips; thus requiring very little attention after they have fairly got to growing and the leaves cover the ground. The yield has averaged a good deal larger, often from 40 to 60 per cent. more than carrots or turnips. I have usually raised the large Dutch to feed.

They keep well in the ground through the winter, but will commence growing very early in the spring; but then if gathered, they will wilt and dry up worse than any other kind of roots; so that it is probably best to dig but a few bushels at a time to feed, until it is necessary to clear the ground, as they will keep as well in the ground if they do commence growing, as they will out. If gathered in the fall, they should be fed out first, as other roots keep much fresher and better.

Feeding.—I find that horses, cattle and hogs are all fond of parsnips; but I have generally fed them to cows and hogs. When feeding them to cows, we find that we get as much milk and butter as when we feed carrots; but though sweet and good flavor, the butter will not be quite so good color. There is no kind of roots that will make as handsome butter in the winter as carrots. To feed raw to hogs, I find parsnips give better satisfaction than any other kind of roots; while by weight, I find they give about as good satisfaction as potatoes. They are lighter than potatoes, so it takes more by measure to produce the same results; but being much more tender, and a better shape to get hold of, my shoats—I have only fed them to shoats that I was wintering—eat them much more readily than potatoes. And I find to feed raw to store hogs, that neither mangolds, beets, turnips nor potatoes are as readily eaten, or give as good satisfaction as parsnips. F.

Orleans Co., N. Y., 1865.

HOW TO MAKE BEAN SOUP.

I wish to tell the "30-year old Bachelor" how to make bean soup. First I soak three pints of beans over night in water. In the morning, as early as possible, I put on a shank of beef, in some eight quarts of water. At ten I add the beans—at noon I add a little salt and pepper—also butter to suit my taste. Some prefer it thickened with rice, and carrots and potatoes are sometimes added; but I leave them out. If they are used, they should be put in one hour before dishing.

Ruttand, Vt. A 20-year Old Maid.

Messrs. Editors—Having seen the inquiry for a receipt for bean soup, I send one that I think very good: Pick over and wash one pint beans; put them in sufficient water to cover them; let soak one hour; drain off the water; cover them in sufficient water to cook them done. Season with salt, pepper, and butter. Then stir a batter with 2 tablespoonfuls sour cream, ⅛ teaspoon soda, the same of salt, and two eggs; drop the batter into the soup while boiling. Let it boil up two or three minutes, then serve up. This is nice seasoned with veal or beef. Mrs. A. Decker, *Phelps, N. Y.*

——— In a late number of your paper "Bachelor" inquires how to make bean soup. In the first place I would advise him to get a wife to superintend his cooking, as *I* think men are entirely out of place in the kitchen. But lest he should get one who does not know how to make this very wholesome article of diet, I send him my method:

Take a nice beef shank or other soup bone, and a pint of marrow beans to a gallon of water; let it boil four hours; season with butter, pepper and salt. Strain through a collander. This makes a soup which my father pronounces excellent. Gineyra.

DOG-POWER FOR CHURNS.

Seeing an inquiry in a recent number of the Co. Gent. for the best dog-power, I will try and describe one that I saw a few months ago in Morrow Co., Ohio. I did not see it in operation, but was told that it was a good one, and regularly used. It was a home-made machine, not patented. I did not observe it very carefully, as I took no measurements, and must describe it from memory. Perhaps some of your readers have used it, or are acquainted with its operation, and will give their views upon it. It appears to have some advantages over the endless-chain power, being cheaper, and I should think there would be less friction. As long as dogs are kept, they should partially pay their keeping.

This power consisted of a circular platform made of light half-inch boards, I should think about seven feet in diameter, in the center of which was an upright shaft with an iron bolt at top and bottom, which played in iron sockets. The shaft leaned to one side, and was so fixed that the upper end could be thrown more or less out of perpendicular, so as to gauge the power. The platform was about four feet from the ground, so that when the dog was tied with a short rope he would not jump off. At the side where the dog was placed a post was set, on which a wheel about two feet across, made of thick plank, was fastened. The outer edge of the platform rested upon this, and the weight of the dog as he kept walking up the inclined side, would press upon the small wheel, causing it to revolve. The churn was connected to this, the same as to the band-wheel on an endless-chain power.

St. Lawrence.

GEESE AS PROFITABLE STOCK.

Of all our domestic birds, none are so profitable as geese, where there are facilities for keeping them; for there are none which can do so much for themselves when alive, and none that come to so little waste when dead. Unlike the fowl, all parts of the goose are equally good, besides which every feather is of value, greater than that of every other of our domestic birds. Every housewife knows how to appreciate bedding stuffed with their plumage, and in these days of metallic pens the goose still possesses quills. Notwithstanding we are furnished with pens of steel and silver and gold, in profusion, "but still," says a writer, "give me in preference to all such, the quill of an old white gander; in the use of such an instrument, as firm as it is elastic, there is some pleasure in writing."

The profit to be derived from geese feathers is not anywhere to be neglected; it is now and always has been an important article, and commands a fair price. An acquaintance of the writer who is particular in keeping his feathers clean, finds a ready market at the highest price. A common goose will yield from 15 to 17 ounces, while the Bremen variety, being of larger size and always white, yield on an average from one to three ounces more feathers, and of a better quality, having more down attached to them than the common brown goose.

Recently, however, there has been gotten up a crusade against feather beds, as well as against goose quills, and the whole object seems to originate in a conspiracy to drive from the pale of public favor the bird which produced them. It is said that feather beds produce effeminacy, and curled hair made into matresses, only is compatible with health and vigor. It is possible that there is some philosophy in this; so far as there is we do not hesitate to make the admission.

When it is considered how great pecuniary profit may be obtained by the keeping of a few geese, to the general farmer, it will be readily admitted that to the small farmer or cottager, the boon will be still more valuable, as geese are easily raised, and being graziers will require less grain-food than any other poultry, and speedily arrive at a condition for market, and command a quick sale. We feel certain that if a common degree of care and attention is adopted, they will remunerate the owner with greater profit, according to the cost of feeding them, and the labor of watching over them, than most other poultry. All the fears and anxieties to rear the turkey, and prepare it for making a proper appearance at table, are with them unnecessary; grass by day and a dry shelter at night, is all they require. They will thrive well on grass that is too short for any other animal.

Geese have been accused of poisoning and rendering the spots where they feed offensive to other stock; but the secret of this is very simple. A horse bites closer than an ox; a sheep goes nearer the ground than a horse, but after the sharpest shaving by sheep, the goose will polish up the turf and grow fat upon the remnants of others. Consequently where geese are kept in numbers on a small area, little will be left to maintain any other grass-eating creature. But if the commons are not short, it will not be found that other grazing animals object to feed after a flock of geese.

It is known that sheep will do well on pasturage that has been cropped by cattle and horses as closely as they are able to do it. Yet after sheep have gone over it, and their sharp teeth have given it another trimming, a flock of geese will find upon it luxuriant fare.

In allowing geese to run at large, it is requisite to be aware that they are very destructive to all garden crops as well as young trees, and must therefore be carefully excluded from young orchards and cultivated fields.

The best locality for keeping geese is a wide range, for where water and grass are plenty we need go no farther. Water of such size and depth as will permit at least a daily "paddle," is essential for stock birds, for here they resort as soon as they are set at liberty from the place of their night's rest, and here and then ensue the intercourse from which an increase to their numbers may be looked for, the presence of water appearing essential to the fertility of the eggs.

"All men," says an ancient writer, "must understand that except he have either pond or stream, he can never keep geese well." If we are to believe M. Parmenter, the vicinity of rivers and ponds is not absolutely necessary to the most successful rearing of geese, for in districts destitute of these advantages, a small reservoir where they can bathe will be quite sufficient.

Columella advises to pasture geese in marshy or moist grounds, and to sow vetches, millet and clover, but more particularly chiccory and lettuce, of which, he says, they are very fond. Grass they must necessarily have, and that which is moorish and unsavory for cattle.

It is believed that geese can be raised in a proper situation at a profit far greater than almost any other stock. But to do this more attention is required than is usually bestowed on their keeping and management.

Let us make an estimate of the profit of ten old geese in the manner they are generally kept by most farmers. We will suppose that the goose-keepers (for there are those who are not farmers) commence operations by purchasing ten geese in the spring before they begin to lay, at $1 each. Eight of the ten geese (for two should be ganders) will have on an average ten goslings each, but allowing one-half for paper calculation, and probably less through the season, it will leave us with a flock of fifty, old and young, worth when dressed for the market, not a dollar—the original cost—but half this sum, and you have $25. In addition to this every old goose will yield one pound of feathers, and every young one three-fourths of a pound, making in all 40 pounds, which, added to the $25, gives us $50.20. We say net profit, for there is not one goose-keeper in ten that feeds his geese either old or young, after the grass has started in the spring, until fattening time in the fall; and then their quills will often more than pay for their food.

The above calculation is made, having reference to the usual mode of managing this fowl, which is no management at all. Because, in the first place, they have generally no place to obtain their food but on the open commons, except such as they too often steal from meadows, to the great injury of the standing grass, and to the feelings of the owner, and very frequently putting their own necks in jeopardy.

But on the other hand, if the owner will provide a good warm and dry house for the accommodation of his geese while laying and hatching, and attached to this a pasture, where they may at all times have access to green grass and a small stream or a pond of water, with due attention and the right bird, which in our opinion are the Bremen, and our word for it, with only ordinary good luck, he will receive more than ordinary profit on the care bestowed and capital invested.

On the advantages of keeping geese, a writer in the Maine Farmer a few years ago said: "I once knew a couple of industrious sisters, who lived near a never-failing brook, and they generally kept through the winter thirty geese, male and female. They had erected some suitable but not expensive sheds, in which they had apartments for them to lay, sit and hatch. Their food in the winter was meal of various kinds to some extent, put principally apples and roots. In the summer they had a pasture enclosed with a stone wall, which embraced the water. They kept their wings so clipped that they could not fly over such a fence. Their owners knew what we all know, that live geese feathers are a cash article at a fair price. They picked off their feathers three times in a season. Those thirty geese wintered would raise seventy-five goslings, or young geese, and of course they had that number to dispose of every fall, or in the beginning of winter, when they are sent to market, and again picked, making four times they obtained feathers from those they wintered, and twice from the young ones that they had killed."

We tell this story to induce some family, sisters or brothers, fathers or mothers, situated near some never-failing brook or stream of water, to go and do likewise. Those remote from water cannot be benefitted by the history, yet their friends may; but if we can by this account cause one family to partake of the benefits of the business we shall be satisfied. Many families there are in all our towns so situated that they may make the raising of geese a profitable business, yet perhaps have never thought of their privileges. No one will object to keeping thirty or forty geese, if an enclosure is made sufficient to keep them at home and out of mischief.

Plucking.—Old, or what are termed stock geese, may be picked three, and, in some seasons, four times, allowing six weeks interval, without inconvenience. Many are of opinion that it directly injures the health of geese to pick them. This operation, however, if done in a dexterous manner, and taking place just before the moulting season, a disease common to all birds, is followed by no inconvenience. One crop of feathers may be taken from the goslings, and some think it an advantage to them, but that could hardly be expected, and it should be deferred till the goslings are three or four months old before they are subjected to this operation, especially to those intended to be killed early, as they would get lean and lose some of their good qualities. Precaution should be taken when the goslings are just plucked, not to suffer them to go into the water, but merely give them drink for one or two days till the skin is closed. Food has great influence on the quality of the down and feathers, as also is the care of the geese. Great precaution is necessary; the feathers always bring away with them a kind of fat, which would give them a disagreeable smell and perhaps spoil, if this was not prevented by putting them in the oven after the bread is taken out, and keeping them in a dry, airy place. One pound of feathers is generally estimated to be the produce of the common goose; the Bremen and Toulouse will give more, and of a superior quality. Lean geese yield more down than fat ones. None but feathers taken from live geese or those just killed, should be taken to market; in the last instance they must be picked before the bird is entirely cold; the feathers are infinitely better for it.

We are not aware of any machine for picking geese; the thumb and finger must do that work. The time to do it is when the feathers are ripe, which occurs about four times during a season. It seems a cruel practice, to say the least, if we may judge from their appearance after the operation, as their drooping wings will testify. Feathers picked when green—in the pin-feather state—are not fit to be put in a bed; they cannot be cured so as to be light and sweet, as ripe feathers are.

Poughkeepsie, N. Y. C. N. BEMENT.

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"STRUCK ILE"---USE OF KEROSENE.

Lubricator.—Having considerable machinery to run the past winter by horse power, and knowing of no accessible lubricator that would not grow hard in cold weather, I have been experimenting for the purpose of getting a lubricator that would stand the cold, not *gum*, be cheap, and accessible to all, and have found the following to answer the purposes very satisfactorily:

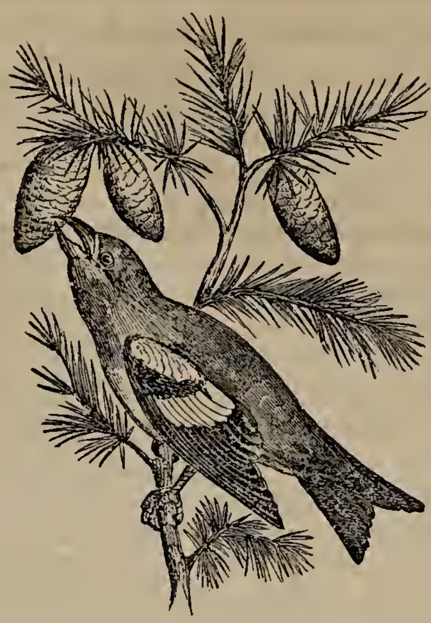
Lard oil, three parts, and kerosene one part. The oil should be warm, *i. e.* about 75° Fahrenheit, when the kerosene is put with it, and then shaken occasionally through the day, when it will be *cut* and mixed. This compound remains liquid some 50 or 60 degrees colder than the best lard oil. I have used it four or five months on most kinds of wood and iron working shop machinery, with better satisfaction than with any *sperm* oil I have ever found. A *larger* proportion of kerosene stands *cold* still better, and a smaller proportion gives more *body*. The same also works well for the axles of carriages, putting in more or less kerosene, according to the time of year and degree of cold.

"Liniment."—Having "broken my neck" several years ago, leaving me with a chronic spinal disease, you may guess that I have had some experience with all sorts and colors of *liniments*, but none with better satisfaction than this:

Kerosene about four parts, and lard oil (or any animal oil) one part—well rubbed in with a flannel, and bound up with the same. For any kind of muscular lameness, or rheumatism, in man or beast, try it. It is also a good external application for the *piles*.

To Kill Lice on Cattle or Colts.—Melt beef's tallow, and mix one part of the tallow with three parts of kerosene, and rub it on to those parts where the lice "most do congregate," thoroughly, once in about three days, till they have got enough, which will not be long.

Boot Grease.—Six parts tallow, two kerosene, one rosin, and a little lamp black, for fall, winter, and spring use—for summer, less kerosene. RUSTICUS.



WHITE-WINGED CROSSBILL.---*Curvirostra leucoptera.* WILSON.

The White-winged Crossbill is a much rarer species than the Red Crossbill, (*Curvirostra Americana,* WILSON,) and its habits resemble to a very great degree the latter species. It is essentially a northern bird, and it is very seldom that it ventures as far south as Pennsylvania. It is not common in Massachusetts, being only a winter visitor in that region. In the month of December, 1854, it was found in considerable numbers in Chester county, Pennsylvania.

According to AUDUBON it is not at all shy, and can be easily approached. It uses its bill and feet after the manner of the Parrots. Its food consists of cones of pine trees, upon which it is most commonly to be found. It possesses considerable powers of song, and is easily tamed.

The bill of all crossbills at first sight appears a deformity, for the upper mandible overlaps the under, but on an examination into the purpose for which it uses it (for opening the cones of the pine tree upon which it feeds,) we must admire the wisdom of HIM who made it. J. P. NORRIS.

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NICE PUDDINGS.

Eight eggs—half a pound of powdered sugar—half a pound of butter—orange peel—citric acid.

Make up one pound of flour into fine puff paste, and lay it in the bottom of three pie plates, trimming the edges smoothly. Bake nearly done, but not brown; fill with the mixture quickly, and return to the oven to finish baking.

Pudding Mixture.—Beat the eggs until well broken; stir in the butter and sugar; drop in the peel of a fresh orange. Set this in a jar or tin cup, in a vessel of boiling water, and stir constantly until it becomes thick and clear. Take out the orange peel, and having dissolved some citric acid in hot water, stir it in it until the mixture has the degree of acidity that you like.

You can use any flavor you please instead of orange peel H. H.

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NICE CAKES.

1 coffee cup of butter; 2 of pulverized sugar; 3 of flour; 4 eggs; three-fourths of a cup of milk; 1 teaspoon of yeast powders.

Beat the eggs well; stir into them the sugar and butter well rubbed together. Now add the milk. Rub the yeast powders into the flour and stir all together until you have a smooth batter. Bake in small tins.. H. H.

THE CULTIVATOR.

ALBANY, N. Y., MAY, 1865.

[From the Country Gentleman of April 20.]

☞ Our news columns are this week burdened with a dark narrative of tragedy and crime. The awful tidings which on Saturday last, so suddenly and fearfully changed our joy of victory into the deepest mourning,—tidings of the death of PRESIDENT LINCOLN, not by disease or casualty, but from the ball of the assassin,—tidings of the bloody assault on the President's chief counsellor, lying helpless and suffering,—his son and clerk both murdered in his defence. —such tidings as these, so unprecedented and appalling, well might carry a thrill of agony and horror to every heart! It was at a moment when public confidence seemed fully restored,—when the shadows of war and bloodshed seemed lifting from the land,—when every thought and intent of the PRESIDENT himself were bent on conciliation, and, with the generous tenderness of a manly heart, he was seeking to heal the wounds of treason, to recall the wandering, and save those who were lost. Spared through the harassing anxieties and responsibilities of his first term of office,—unharmed by the threats of his and the Country's enemies through four years of public tumult,—he has fallen now—in the hour of triumph, with the blood of martyrdom to seal the veneration and love in which his memory will be held sacred, as long as the history of our Republic is preserved! His countrymen of every State, and of every shade of political opinion, are brought hand in hand about the grave of their murdered Chief Magistrate, united in the bonds of a common sorrow,—as yet palsied by the blow and uncertain of the future, like an army whose leader is stricken down, or a vessel whose pilot is lost amidst the shoals! May the Ruler of our destinies, in His infinite wisdom and mercy, bring light out of the darkness in which is shrouded to human eyes, this mysterious dispensation of His will!

☞ THE NEW-YORK STATE AGRICULTURAL FAIR for 1865, was located by the Executive Committee, on the 23d inst., at Utica, to be held September 12th, 13th, 14th and 15th.

HUGH CROCKER, Esq., of Utica, was appointed a member of the Board, to fill the vacancy caused by the lamented death of ELON COMSTOCK, Esq.

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American Implements, etc., in Germany.—A friend now in Berlin, from whose pen we have the pleasure of anticipating ere long a series of letters containing the results of his observations on rural life abroad—has sent us the illustrated catalogue or hand bill of CARL BEERMANN, manufacturer of Agricultural Implements and Machines, No. 8 Unter den Linden, in that city. We notice that of the various articles described *one-third* are American inventions—including four kinds of plows, a subsoil plow, a potato digger, an endless chain horse-power, a fanning mill, a root cutter, a chain pump, a garden water-engine, a meat-mincer, a sausage stuffer, two American patents in sewing machines, a washing machine, a clothes wringer, an apple parer, &c., all of the genuine Yankee type. This seems to indicate that our implements are in growing favor on the European continent.

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Sale of Ayrshire Herd of H. H. Peters.—This important sale took place on the 11th of April, as advertised. We regret that we were unable to be present, as anticipated, but are indebted to H. G. WHITE, Esq., for the particulars as given below. The attendance Mr. W. states, was very large, from 600 to 800, including many prominent breeders of other States, as well as Massachusetts.

COWS AND HEIFERS SOLD.

	Name.	*Calved.*	*Purchaser.*	*Price.*
1.	Jean Armour	May 1, 1856	H. N. Thurber, Pomfret, Ct.	$400
2.	Jean Armour, 2d.	May 23, '61	G. Heman, ———	275
3.	Camilla	April 19, '61	O. F. Hubbell, Milford, Ct.	325
4.	Dolly	April 13, '64	G. A. Dresser, Boston	185
5.	Jean Armour, 3d	Jan. 4, '64	——— Hammond	195
6.	Miss Miller	Mar. 18, '56	—— Pollard, New Braintree	315
7.	Miss Miller, 2d	April 2, '59	S. Boyd, Marlboro	305
8.	Constance	Oct. 27, '64	O. F. Hubbell	200
7.	Miss Morton	1855	Wm. Birnie, Springfield	155
10.	Miss Betty	April 20, '56	Wm. Birnie, Springfield	140
11.	Miss Betty, 2d	Aug. 27, '61	J. Hodges, Providence	125
12.	Miss Betty, 3d	July 7, 64	E. D. Pierce, Providence	90
13.	Minna	1857	S. M. Wells, Wethersfield, Ct.	215
14.	Rosa	1856	H. N. Thurber	165
15.	Rosa 2d	July 4, '60	H. R. Keith, Worcester	300
16.	Rosa 3d	June 13, '64	W. F. Worthington	120
17.	Miss Drew	1857	H. Loring, Boston	355
18.	Miss Drew 2d	July 5, '60	P. Whitin, Whitinsville	305
19.	Fanny	May 19, '61	R. Bradley, Brattleboro, Vt.	220
20.	Duchess 2d	1857	H. N. Thurber	405
21.	Mary 3d	1857	S. M. Wells	210
22.	Blanche	May 14, '62	R. Taft, Nashua, N. H.	190
23.	Nora	May 3, '63	L. Nichols, Boston	150
24.	Greta	July 14, '64	L. Sweetser, Amherst	100
25.	Young Merryton 2d	1856	S. M. Wells	170
26.	Young Merryton 3d	Jan. 30, '60	J. Hodges	195
27.	Amy	Jan. 11, '63	J. J. Wadsworth, Boston	210
28.	Shepherdess	Feb. 15, '64	G. A. Dresser	155
29.	Hebe	June 15, '63	L. Sweetser	100
30.	Brenda	1857	S. Thurber	145
31.	Flora	1857	Wm. Birnie	290
32.	Flora 2d	Dec. 22, '61	S. M. Wells	225
33.	Evelyn	Oct. 24, '63	J. Burnett, Southboro	160
34.	Susan	1856	H. N. Thurber	350
35.	Susan 2d	April 2, '60	H. Loring	205
36.	Dora	July 21, '63	C. N. Healy, Exeter, N. H.	180
37.	Kitty	June 18, '64	A. Reed, Danube, N. Y.	150
38.	Susan 3d	Jan. 21, '63	Chas. Hayes, Portsmouth, N. H.	205
39.	Maggie	1857	R. H. Wheelwright, Groton	155
40.	Maggie 2d	Aug. 5, '64	H. W. Tilton, Boston	200
41.	Tilly	July 6, '63	Richards Bradley	155
42.	Ida	June 14, '64	Geo. A. Dresser	110
43.	Ruth	1858	G. R. Hall, Bristol, R. I.	335
44.	Lassie	June 7, '61	H. Loring	225
45.	Pink	1857	M. S. Scudder, Boston	100
46.	Queen 2d	1855	S. M. Wells	200
47.	Queen 3d	1858	R H. Wheelwright	155
48.	Queen 4th	March 25, '61	H. W. Tilton	200
49.	Juno	Jan. 13, '63	Jas. Herrick, Minaville, N. Y.	180
50.	Myrtle	April 9, '64	H. Loring	210
51.	Mistress 2d	1858	S. Nichols	350
52.	Diana	March 11, '64	H. Loring	135
53.	Pea Blow	June 4, '54	L. E. Lane, Hampton Falls	225
54.	Dew Drop		L. Thurber	320

Total for 54 head—average, $214 each, $11,540

BULLS AND BULL CALVES.

1.	Irvine	1858	Geo. A. Dresser	$110
2.	Malcolm	1863	H. Loring	175
3.	Scotia	1863	H. McMonachan, Sussex	115
4.	Nigel	1864	H. W. Tilton	100
5.	Percy	1864	S. Clark, Boston	45
6.	Hugo	1864	A. Reed, Danube, N. Y.	170
7.	Dorsie	1864	S. S. Hubbell, Philadelphia	130
8.	Cuthbert	1864	A. H. Southwick, Blackstone	70
9.	Robt. Burns	1864	Chas. Hayes	75
10.	Buccleuch	1864	Jas. Herrick	95
11.	Haswell	1864	A. G. Fitch, Holliston	55

$1,140

TOTAL OF SALE, $12,680.

The success of this Sale is unprecedented we think in the annals of the breed, and reflects great credit upon Mr. PETERS and his management of the herd.

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The farmers of the distant island of New Zealand having heard of the prolific character of the Chinese sheep, propose to make an importation of the same. We recommend them to apply to the Ohio gentleman who recently advertised in the columns of this paper.

Vermont and Europe.—A Breeders' and Manufacturers' Convention was held at Bellows Falls, on Friday, April 7th, for the purpose of securing a representation at the exhibition at Stettin, in Prussia, to be held from the 16th to the 21st of May next. Col. Needham delivered an able address, and Dr. Henry Boynton of Woodstock, and Henry Clark, Esq., of Poultney, were chosen Commissioners to attend the exhibition. Mr. Clark was also appointed a committe to solicit subscriptions to meet the necessary expenses. A number of gentlemen present, says the Vermont Record, showed their "faith by their works" and subscribed $100 each.

"If others come as readily up to the work sufficient funds will be obtained. Col. Needham clearly showed why Vermont should be represented, and no one can dispute his arguments. It was suggested that in addition to the sheep that are to be sent, a collection of Morgan horses, Brattleboro carriages, &c., be sent to the exhibition. Action must be taken quickly, as the commissioners and articles for exhibition must sail on the 29th of this month. From 12 to 16 sheep will be taken, selected from the best flocks in the State. This is a work of the utmost importance to Vermont, and it should be taken hold of in earnest."

A copy of the List of Prizes to be awarded at Stettin was lately sent to the COUNTRY GENTLEMAN, from which we may translate those offered on Merinos, as of especial interest here:

1. MERINO SHEEP WITH CLOTH WOOL.

a. Rams from and over 2 years old, *of at least Prime Fineness* [of wool], which have the highest breeding value—first prize 60 thalers; 2d prize 40 thalers.

b. Yearling rams of same category—1st prize 40 thalers; 2d, 20.

[Similar prizes for Ewes, in pens of three, of similar ages.]

c. Rams 2 years old and over, *of less than Prime Fineness*, which have the highest breeding value—same prizes.

[Classes for yearling rams and ewes as above.]

2. MERINO SHEEP WITH COMBING WOOL.

d. Rams from and over 2 years old of at least Prime Fineness, which have the highest breeding value—1st prize 60 thalers; 2d, 40 thalers.

[Classes for yearling rams and ewes as above.]

e. Rams 2 years old and over, of less than Prime Fineness, having the highest breeding value—same prizes.

[Classes for yearling rams and ewes as above.

Obituary.—ELON COMSTOCK, Esq., formerly of Oneida Co., where he edited and published for a time, in connection with Col. JOHNSON, the *Central New-York Farmer*, and more recently associated in the editorial management of the New-York World, in which he sustained an interesting and valuable Agricultural Department, died lately in this city. He had been freqnently connected with the New-York State Agricultural Society and was a member of the Executive Committee the present year. He was always an earnest friend of Agricultural improvement, and rendered good service to the cause both as a writer aud in his official position in various Societies. His loss will be keenly felt, not only in the immediate circle of his personal friends, but also among those who knew him more particularly as a participant in our agricultural meetings, and from his labors through the press.

THOS. RICHARDSON, Esq., of New-York, a gentleman prominent in his connection with the mercantile interests of the country, both domestic and foreign, died early in March, at the Island of Santa Croix, whither he had gone in pursuit of health. The owner of one of the most ornate and beautiful of the many expensive country seats in Westchester county, he devoted considerable attention there to agricultural matters, aside from extensive conservatories and elegant grounds; while he was also carrying on a farm of greater extent in Burlington County, New-Jersey, on which important improvements had been effected, and which is in many respects a model of perfect culture. At one time the importer and owner of one of our finest Short-Horn herds, he had of late given more attention to other stock, especially Alderneys and Cotswold sheep. His interest in Agriculture was such, and the character of his views so sound and public spirited, that his friends had anticipated for him a still more leading place among the promoters of improvement. Whenever possible he had been present at our Shows, and we had the pleasure of visiting the last Provincial Exhibition of Canada West in his company. Although frequently spending much time abroad, and himself of British birth, he was thoroughly American in sentiment, and watched our present struggle with a deep interest, and an abiding conviction of its ultimate success, which we have seen surpassed by few of the most patriotic of our citizens "to the manor born." As frank and earnest in the expression of his opinions, as he was straight-forward and honorable in business intercourse, his death is a sad and sudden blow, and leaves a vacancy that must long remain unfilled.

The Crops in Onondaga.—Hon. GEO. GEDDES writes us under date of Fairmount, April 1st: "The first day of April finds the ground nearly settled—grass and wheat starting finely. The wheat comes out from under its deep covering of snow much better than I expected to see it; in some places the heavy drifts have killed a little, and the freshet has, in some cases, scored out the ground a little while the water was running off. But April is the trying month for wheat. If the first of May finds the crop as promising as it is now, I shall be satisfied with the prospect for a crop."

Letter from John Johnston.—Mr. JOHNSTON writes us the following note, under date of Near Geneva, 10th April—the day preceding his 75th birthday:

MESSRS. TUCKER & SON—As I see little or nothing said about the prospect of the wheat crop, I write you to say that it was never better hereabout than this season. Drained and undrained, all looks well; but if one or two million of the money that has been spent on this war could have been applied to draining the land, the improvement to the country would have been immense However, the war is over I think, and it will certainly be a long time before the South commences another war with the North. Yet I am afraid our high taxes will retard the improvement of the land, unless high prices for produce prevail, which is hardly to be expected, except when they have a great failure in England, Scotland and Ireland. A great deal has been made by fattening cattle and sheep the past winter—more than ever before; but it is almost sure to be the reverse next year, especially if feed is low, as too many will go into the business.

JOHN JOHNSTON.

Massachusetts.—At the annual meeting of the Massachusetts society for the encouragement of sheep husbandry, recently held in Boston, Thomas Motley of West Roxbury, was chosen president, C. L. Flint of Boston, secretary, and J. R. Brewer of Boston, treasurer. Among the vice-presidents elected were Dr. George B. Loring of Salem, H. G. White of Framingham, W. Henry Paine of Northampton, William Birnie of Springfield, T. J. Field of Northfield and Arthur Gilman of Lee.

The Country Gentleman.—The *Wisconsin Chief* remarks editorially:

Several times in these columns, we have commended the COUNTRY GENTLEMAN to our readers, and urged them to "own and possess" a copy of their own. We have sharpened the nib anew to say "that same" again. We want those who till the soil, whether as farmers, gardeners, or horticulturists, to enjoy with us this best of agricultural weeklies. In its typographical appearance, the variety and interest of its correspondence, gathered from all sections of the country, the ability, dignity and candor of its editorial management, it is not excelled. It is indeed a "Journal for the Farm, Garden, and Fireside." To us, a missing number is a loss, feeling assured that much of value has failed to reach us.

The Michigan Agricultural College.—We are pleased to learn from SANFORD HOWARD, Esq., that this institution has as many students as it can accommodate, and that the State Legislature has appropriated for its benefit all that was asked by its friends—$15,000 for each of the two years 1865 and 1866.

Washington Co. Wool-Growers' Association.—The Executive Board of this Association met at North Granville, March 9th, and completed arrangements for the Spring show and public shearing. It will be held two days, May 4th and 5th, at North Granville. The following classification was adopted:

1st Division—As regards Quality of Wool.
2d Division—As regards Quantity of Wool.
3d Division—As regards Symmetry of Carcass.
4th Division, and highest—As regards the above qualities combined.

Each division has five classes, *i. e.*, Ram Lambs; Rams one year or over; best pen of three Ewe Lambs; best pen of three yearling Ewes; best pen of three Breeding Ewes, two years old or over. In the first, second and third divisions, the prizes are $2 in each of the five classes; in the fourth and highest division, the prizes are $4 through the five classes, and a second prize through each class of $2. Three Judges on each class have been appointed. ISAAC V. BAKER, JR., Secretary, Comstock's Landing.

New-England.—We note a newspaper item stating that arrangements have been completed for holding the next fair of the New-England Agricultural Society at Concord, N. H., on the grounds of the Merrimac Co. Society.

Missouri.—A prominent friend of agriculture in St. Louis county, writes us: "I take pleasure in informing you that Free Missouri has now organized a State Board of Agriculture, and enclose a report of the proceedings." From this report we learn that the Board of Agriculture as now organized, is as follows:

President—HENRY T. MUDD, St. Louis Co.
Vice President—Geo. Husmann, Gasconade Co.
Treasurer—Fred. Muench, Warren Co.
Members—Dr. Geo. R. Buckner, St. Charles; Gert Goeble, Franklin; Francis Kellerman, Washington; Dr. L. D. Morse, St. Louis; Barnabas Smith, Crawford; M. T. Essex, St. Louis; Chas. A. Newcomb, Jefferson.
Secretary—John H. Tice, St. Louis.

Canada West.—The Show of the Provincial Agricultural Society of Canada West, is to be held September 18th–23d, at the city of London.

Lower Canada.—The next annual exhibition of the Provincial Agricultural Society of Canada East, will be held in the city of Montreal, on the 19th, 20th, 21st and 22d September.

The last number of the Lower Canada Agriculturist contains a list of the County Societies in that province—no less than *seventy-three* in number, with lists of officers and place of organization.

Illinois.—The Illinois State Fair for 1865, as we learn from the Secretary, J. P. REYNOLDS, Esq., will be held at Chicago, Sept. 4—9.

Otsego County.—The officers of this flourishing agricultural society for 1865 are:

President—G. POMEROY KEESE, Cooperstown.
Vice-President—Wm. I. Compton, Middlefield.
Secretary—H. M. Hooker, Cooperstown.
Treasurer—F. U. Johnston, Cooperstown.
Directors—Chas. Bates, R. H. Van Rensselaer, Jas. R. Morris, Alfred Clarke, Henry Roseboom, and John A. Rathbun.

Theron Doolittle.—If any of the readers of the COUNTRY GENTLEMAN or CULTIVATOR know of the whereabouts of one THERON DOOLITTLE, they will greatly oblige his mother by writing me a line to that effect. L. F. SCOTT. *Bethlehem, Conn.*

Brains in Farming.—The time has come when live men are wanted everywhere, to discuss the great questions of the day in relation to Agriculture and its kindred sciences. Much has been done much more remains to be done. I have been much interested of late in relation to the Correlation of Agricultural Force, so ably set forth by your valuable correspondent. D. LEE. The vast storehouse of natural forces yet to be unlocked by the hand of science, from the vegetable and mineral worlds, is inconceivable. Yet in connection with mechanism, we have a power by which we are as much benefitted. The forces inherent in all matter have a direct bearing upon the human mind. Indeed, it is built up, sustained, and strengthened materially by them, and thus in this direction are we to look for all the aid consonant with our welfare upon earth. The human machine—what wonders are pent up in all its particles! Who can know its beauties, its harmonies, or unravel the wisdom displayed in its structure? Yet who can venture the assertion that from thence comes a force greater than from all nature besides? Here is the great road to all force, ever useful in its application, ever changing, and moulding new uses and beauties from all material. The human mind is the greatest of powers. By its use the rocks melt or crumble in dust, mountains are leveled, the earth is made a paradise, the desert is made to blossom as the rose. Let all know of this power; herald it forth to all the land. Men must use brains, to use the expression of the author of "Ten Acres Enough." His farm was literally manured with brains. Who can doubt it? Look at those results, in comparison with slipshod cultivation the world over. So I shall say in conclusion, farmers of our great country, manure your fields with brains, and doubt not the result. S. V. GIFFORD. *Hudson, N. Y.*

Thrush in Horses' Feet.—I read some matters in your paper which seem to me to deserve different answers from what they get. You may recollect that about a year ago, I made inquiry for a cure for the thrush in the horse's foot. I think nobody answered through the Co. GENT. A month or two afterwards I was pleased to receive a letter from the mining districts of California in answer to my inquiry, and showing that the Co. GENT. reached that far-off country. Of all the experiments I tried, the most available one was the simplest. It may be generally known; if not it ought be—viz., first, every day, by the use of warm soap-suds, cleanse the affected parts as well as possible of the offensive discharge. Then take common dry salt, and with the blade of a knife or other instrument, press the dry salt as deep as possible, and plentifully, into the crevices from whence the offensive matter flows. By following this attentively for a long time, I have cured the worst case I ever saw. I think it will cure any case of the kind. An old Englishman looking for work, told me of this method of cure, and if I could find him now, I would present him with the new coat which he at that time evidently needed very much. H. DODGE.

How to Cleanse a Cistern.—Another simple thing I have accidentally learned; and it too, if not generally known, ought to be, relating to stagnant, odorous water in cisterns. Many persons know how annoying this sometimes becomes. After frequent cleanings and other experiments, all to no positive permanent utility, I was advised to put, say two pounds of caustic soda in the water, and it purified it in a few hours. Since then, when I tried what is called concentrated lye, I had quite as good a result. One or both of these articles can be obtained at almost any druggists. H. DODGE. *Buffalo, N. Y.*

Hog-Pens.—I would say to all persons intending to build a new hog-pen not to build a granary over or adjoining it, as I have known two cases where grain stored in such places has become so impregnated by the effluvium of the hogs as to be unfit for human food, and I doubt the propriety of making hogs eat grain so saturated with the steam arising from their wet and warm apartments, and I doubt if pork thus fattened can be fit to eat, in such damp and dark rooms, where the sun and winds have no purifying influence. A hint may be sufficient. S. MASSEY. *Watertown, N. Y.*

Wilson's Albany Strawberry.—At a meeting of the Horticultural Club of New-York last week, in answer to an inquiry for the best strawberry, Mr. Pardee and Solon Robinson both said "that, all things considered, they had never found an equal to the Wilson, which is never objected to on account of its acidity if allowed to become fully ripened."

Inquiries and Answers.

Durability of Seed.—*J. E. P., Worcester, Mass.* Nearly all seeds are best when fresh, and they gradually lose their power of vegetating with age. Books on gardening state the number of years each kind of seed retains its power of germinating, but such tables are inaccurate, as the period does not suddenly cease, and they become gradually more and more dormant.

Top-Dressing with Lime. — *J. E. P.* Orchards may be top-dressed with lime at any time of the year. The lime should be pulverized and evenly spread, and not in lumps.

Hubbard Squash.—*R. H. D.* The Hubbard Squash is green outside and yellow within—a good keeper in winter, and sweet and very rich in quality. If the kind our correspondent has, meets these points, it is doubtless true to name.

List of Pears.—*T. H. B., Indianapolis.* The following is a good list of pears, nearly in the order of ripening: Doyenne d'Ete, Giffard, Rostiezer, Tyson, Bartlett. Seckel, Flemish Beauty, Buffum, Louise Bonne de Jersey, Howell, Sheldon. Diel, Lawrence, Winter Nelis.

Cement for Cellars.—I want to cement my cellar bottom. It is wet when the water rises. Will cementing it keep the water back? There is no drain. What kind of cement is the best? A Subscriber. [Where practicable a good drain should be provided for every cellar, unless it has a natural discharge. The water may be kept out however, by lining the entire sides and bottom with the best water lime cement like a cistern. The best Rosendale cement, or any other which has been proved equally good, may be used for this purpose. The sharper and cleaner the sand, the more perfectly it will harden.]

Tan Bark for Manure.—Can you or any of your patrons inform me if spent tan-bark can be made available for manure in an economical manner. I want to plant two or three acres of onions next year, and want to prepare manure for it this summer; have to buy all the manure I shall use. J. A. D. *Poughkeepsie.* [Tan-bark is of little value for manure, except as forming vegetable mold, and for this purpose it should be well rotted down. In this state it forms an excellent compost with common manure. The addition of a small portion of lime is useful. But lime will not make a manure with tan, until it is rotted down.]

Feeding Roots.—I have two two-year olds that I am trying to fatten on mangolds and white carrots. Is half a bushel per day too much for them, and will carrots and beets fatten them without meal? They are growing, but I must get rid of them by the first of May. M. J. F. [Carrots and beets are a good feed for all cattle—the amount must be gradually increased, and when accustomed to it, half a bushel a day is not too much. The addition of a quart of meal at each feeding would be a great help. It is a mistaken notion to suppose that any animals can be well or speedily fattened on high feeding—it must be by continued feeding.]

Animal Manure.—Will it pay to collect what we farmers denominate deacons—that is calves killed at three days old—for making compost? Within a circumference of three miles there can be about a thousand collected. Now I would like to know whether it will pay me to collect them, and what is the best way to compost them—I have plenty of muck—and what proportion of each. A Subscriber. [These dead animals if easily collected, would form a compost worth more than the cost of labor, by placing them in alternating layers with peat, muck, loam or turf—one-half or two-thirds of the latter. A soil which contains much clay has more absorbing power, and need not be in so large quantity as a lighter soil. After remaining thus six months or a year, the heap may be dug over or mixed, and applied to the land; the flesh having disappeared and been absorbed, the bones which are left may be easily broken up.]

Fruit Trees for Shade.—I intend setting out some trees for shade, beside the highway, this spring, and propose planting some 40 pear trees, the balance cherry trees. Will you name a few of the best varieties for my purpose of both kinds, including early, medium, and late? The first requisite being thriftiness and beauty of tree, and then quality of fruit and productiveness. Would trees be more thrifty procured from a different latitude, either farther north or farther south, or are they as good procured from nurseries in this vicinity. L. L. Wood. *Vineland, N. J.* [Among the handsomest growing pear trees, that bear fruit of excellent quality and grow rapidly, are Buffum, Howell, Flemish Beauty, and Washington. Skinless is also a rapid grower, but not quite so symmetrical in form. Urbaniste is a handsome tree, but grows rather slowly. Jaminette is a fine grower. Among cherry trees of good form, are Black Tartarian, Burr's Seedling, Coe's Transparent, Napoleon Bigarreau, Downer, Reine Hortense, and Black Heart. A difference in latitude for procuring trees is not essential, provided they are good and healthy.]

Seeding to Grass.—A subscriber wishes to know the best crop to sow for seeding down a rich corn stubble to grass. We have been most successful with barley sown thin, or at the rate of a bushel or a bushel and a half to the acre. If the grass seed is properly brushed or rolled in, or sown on mellow ground just before a hard shower, it scarcely ever fails of success. Spring wheat is next best, and lastly oats—all of which should be sown rather thinly.

Cisterns above Ground.—Please inform me if a cistern built of brick above ground, and eighteen inches or two feet of saw-dust put around it, and the top covered with straw to keep from freezing, would not be better than to build below ground and have to pump it? A Subscriber. *New-Haven Co., Conn.* [A cistern above ground, built of brick, would require very strong walls to keep from bursting. For example, one six feet high and eight feet in diameter, would present one hundred and fifty square feet of surface of side walls, against which the water would press when full equal to an average head three feet high, or about a pound and a half for every square inch, or equal to thirty thousand pounds on the whole surface, or thereabouts. Casing the walls in straw would not be ornamental. It would be a decided advantage to be able to draw the water for cattle without pumping. The only way would be either to place the cistern on a hill or mound, or else to throw up a broad sloping earthwork around it.]

Grass in Shade.—Can you through the columns of your paper, give me some information about getting grass to grow in a woods where the trees have been trimmed up and under-brushed. Is blue grass a good grass? The soil is clay and wet in places. What time of the year should blue grass be sown, and where can I get it? Oliver Williams. [It is difficult to have a good, well-matted turf where there is much shade, especially if the trees drop many leaves on the surface. In a thin shade, or where the trees are scattered, there is not much difficulty. The orchard grass grows best under trees, but is coarse and entirely unfit for a lawn. Next to this is the June grass, (*Poa pratensis*,) known as the blue grass of Kentucky, which forms a handsome turf during the early part of the season, but should be mixed with other grasses for autumn. The seeds of these grasses can probably be obtained of Thorburn & Co. of New-York, and other principal agricultural seed stores. Sow the seed as early in spring as the soil is dry enough for the pulverization of the surface, and brush or roll it in.]

Caloric Engines.—In answer to a correspondent, these engines have not been advertised of late to our knowledge, and we cannot give the address of their manufacturers. They are better adapted for *constant work* of a very light character, such as pumping water, &c., than for use where the power required is larger. and some saving of fuel is not so important—so far as our examination of the subject entitles us to express an opinion, and where the work contemplated would necessitate as much as six or eight horse-power, we should be inclined to prefer a Portable Steam Engine.

Colts Gnawing their Halters. — A subscriber wishes to know how he can stop a colt from gnawing the hand-piece to his halter. If he will take one fourth of a pound of copperas, dissolve it in one quart of water, and thoroughly saturate the hand-piece to his halter, I do not think he will have any more trouble. J. L.

Not a Marl.—I have a little place in New-Jersey, some ten or fifteen miles from the green marl deposits. About half a mile from my place is a deposit or stratum of a substance resembling putty, both in looks and consistency. You can work it in your fingers, and I have no doubt could put window glass into a sash with it, as well as with real putty. When dry it can be easily pulverised, and is as fine as flour. Now is it marl, or what is it? If it is a fertilizer, it ought to be put to use. Can you give any information? A Subscriber. [We enclosed the foregoing inquiry to Prof. Cook of the New-Jersey State Geological Survey, who favors us with the following reply:—"The deposit spoken of is not marl—neither greensand—nor calcareous marl. The description is that of some varieties of clay which abound within 10 or 15 miles of the greensand. I should not think it a fertilizer in the proper sense of the word, though it might be put to a good use in improving sandy soils."]

Heaves in Horses—Grain for Milk.—1. Is there any remedy for "heaves" in horses? 2. What is the best grain to produce milk in suckling animals—oats, corn or rye? A SUBSCRIBER. *Mt. Vernon, O.* [1. Heaves in horses is generally regarded as incurable, and this opinion is not far from correct. The disease is always much mitigated by succulent food—hence dry fodder should be cut short and soaked or moistened with water. In rare instances the disease in its early stages has been cured by mixing grease or lard in small quantities with the food. In one instance we knew a cure entirely effected in a young horse by compelling him to drink the greasy water from washing dishes, with a portion of refuse milk, given for some years. In the course of time he became fond of this drink, and preferred it to any other.—2. The meal from either of the grains here mentioned, if *regularly*, and moderately fed, will increase the milk of cows; but if well moistened or scalded, or rather made into slop, the quantity will be much augmented. All succulent food increases most the bulk of the milk, good fresh grass the most so of all. For making butter corn is best, and for cheese bean meal produces the largest amount.]

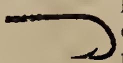
Bullard's Hay Tedder.—I see in the Co. GENT. an advertisement and sketch of a machine for spreading hay by horse power. Can you inform me whether this, or any other plan of machine for spreading hay by horse power, has been used and approved of by any considerable number of farmers? I think the plan and mode of operation of Bullard's machine is not the best for the purpose in view. E. K. W. *Baltimore, Md.* [Bullard's Hay Tedder has been used to a considerable extent for the past two years, and, so far as we have heard, with universal satisfaction.]

Live-for-Ever.—There is one field in my farm that is completely overrun with Live-for-ever. Can you or any of your numerous subscribers inform me through the Co. GENT., how to effectually get rid of it? It was plowed up last season and planted to corn and thoroughly worked. This spring it has come up as strong as ever. EDWIN THORNE. [Probably the best way, if the patch is small, is to spade it under, and thus smother it; if extensive, plow it under with a double Michigan plow, with three yoke of oxen or corresponding horse team. If any of our readers know a better mode will they please give it?]

Cattle Shed.—How large a shed would be required to shelter 100 sheep and 50 heifers, both summer and winter, open on the south, and built around the other three sides of the barn yard? [Where the animals run loose or promiscuously together, a good deal will depend on the size as well as temper of the animals. Fifty cattle should have a yard with an area of 15 or 20 square rods, more or less,—and 100 sheep about 10 square rods.]

Rotary Sweep.—A correspondent in the number of the Co. GENT. for July 28, 1864, speaks of Dederick's Rotary Sweep used with a horse fork. Will some one describe it? M. *Yates Co., N. Y.* [The rotary power for pitching hay obviates the necessity of backing the horse at each successive unloading of the fork, his motion being continuous and circular, like that of a sweep horse-power. It is made by L. DEDERICK of Albany, the manufacturer of the hay press, who can give the necessary information as to price, &c. Before the war it cost about $50.]

A Rat Destroyer.—Seeing a communication in Co. GENTLEMAN asking how to clear a place of Rats, I give you our experience. Having a grain distillery, with always a large quantity of rats, we cleared our place as follows: We bait fish-hooks, of the size of accompanying sketch, with dried beef, not too large, but just the size for a rat to swallow; place in a secure place from dogs, chickens, cats, &c., and in a few days you will hear a great commotion of rats vacating; they get them in the mouth and stomach, and cannot get them out, and they convey the information to the rest. Y. P. M. *Philadelphia.*



Tarring Seed Corn.—I notice an inquiry in the last number of the COUNTRY GENTLEMAN about tarring corn to prevent birds from taking it up. In answer I would say that I have used both kinds of tar for that purpose, but for the last 10 years have preferred gas or coal tar, because it is much more easily applied, and equally safe. If the corn is made jet black with it, it may not grow, but there is no occasion for that. Take a paddle and dip from the tar to the corn once or twice, then stir till the corn is all coated, and appears through the tar of a yellowish brown color. It may easily be tested by throwing a little to the poultry. The crow blackbirds mostly have about twenty nests in the pine and cedars of my yard each spring; but if my planted corn was tarred, (which is generally the case,) I have not the slightest objection to it. They gather Maydukes and other early cherries though, a little too fast.

Medford, N. J. G. HAINES.

Fences for Flooded Lands.—The recent flood having swept away some thousands of miles of fences in the Middle States, the question arises, can farmers rebuild in any manner with material not liable to float away? Can a wire fence be made by securely anchoring the posts, that will turn cattle and withstand the flood in places not exposed to be swept by drift-wood? I understand that the expansion and contraction to which iron is subject from the changes of the weather, has been an obstacle to making durable wire fences. Can that difficulty be in any manner obviated? I should like to have some attention given to this matter of fences subject to overflows, in your paper. Will not your readers contribute their experience? B. LAPORTE. *Asylum, Pa.*

Thrush in Horses' Feet.—I notice in number 12 of the Co. GENT., a remedy for thrush, viz., salt, which is very good. H. Dodge says—"after continuing it a long time, he perfectly cured the very worst case he ever saw." Now if he had thoroughly soaked his horse's feet in strong cider vinegar after cleansing them nicely, and *then* packed them with salt, a very few applications would have done the cure. I cured the worst case of thrush I ever saw in one week, with only three applications, and have never known it to fail of effecting a speedy cure. The vinegar neutralizes the offensive discharge; the salt cleanses out the foot, and the thing is done.

NASHUA.

New-Jersey Marls on Long-Island.—The astonishing effects of the New-Jersey marls in renovating the worn out lands of that State, have long been known. I am desirous of learning whether this manure has ever been tested upon the soil of Long-Island, which, in its composition, is very similar to the sandy loams of New-Jersey. The great marl beds lie very convenient for the carriage by water of the fertilizer, to both sides of the Island. If it should be found to act there as favorably as in our sister State, it is easy to see what a large market would soon be opened up for the marls. The present high price of all fertilizers is operating very much to the disadvantage of farmers, and every new source of supply should be carefully cultivated. It would seem probable that the use of marl in greater or less quantities must have been tried on Long-Island. If those who may have experimented with it, will communicate the result of their observations as to its effects, a great favor will be conferred on a

Brook Haven, L. I. LONG-ISLAND FARMER.

"Hall's Yankee Farmer."—In answer to inquiries, I would state that I sold no machines last year, and have none for sale now. It continues to be my chief implement. It worked last year eighteen acres tobacco, 10 acres potatoes, three fodder corn, five field corn, three acres carrots, &c. I could not otherwise have done the work as cheaply or as well. I have made some changes in it to reduce the weight and draft. As to the perfection of its work, I believe it unequalled. If any better principle of planting, drilling, cultivating, or potato digging are brought out, I shall be glad to substitute them. As yet I don't know that it can be equalled in any of its operations. It is, however, yet more unwieldy and ill-looking than any of the planters, cultivators, &c., on sale. I invite attention to its work on my farm this season.

Elmira, N. Y. S. W. HALL.

Egg Hatching Machines.—Can you recommend a good egg hatching machine? J. N. G. [The only one we can thoroughly "recommend," and that we do most cheerfully and from long experience, is a faithful hen.]

Gas Tar for Seed Corn.—None of the readers of the Co. GENT., need fear the use of gas tar to prevent crows pulling up corn. I have used it for ten years successfully. The modus operandi is this: Put about a peck of seed corn in an old tub or keg; pour warm water on and stir. When the grain is all warm, pour the water off; then stir the hot corn with a tarred stick till each grain has received a *slight* coating of the tar; then sift on dry ashes or plaster, and stir till the grain separates ready for planting. E. OLIPHANT.

Bones.—Is the decomposing of bones by ashes and lime, as good a way of preparing them for use as grinding? M. [More experience is needed in preparing bones for use. Using ashes and lime answers a good purpose, perhaps as good as any, if the volatile parts are retained by a covering of loam or other absorbent.]

HOW I CULTIVATE THE DAHLIA.

I have just read in the Co. Gent. of March 30th, a note on dahlias and pansies. Your correspondent speaks of having failed in the cultivation of the dahlia, &c. I presume that others rarely have the success in its cultivation that they desire, and as my method is quite simple and successful, I propose to give it in detail for the consideration of your correspondent and other readers of the Country Gent., inviting them to try it.

In the first place, I keep my dahlias in boxes in a dry cellar, open and exposed to the air. In this way they never mold. They will dry some, but this will not injure them. I bring them out the first of April and start them in wet sand. As soon as they sprout I divide them, and either pot or put them in boxes, keeping them in moist sand until I set them out, which I do the first of June.

In its cultivation for the past five or six years, I have given special attention to various soils, and have proved to my satisfaction that a rather poor and somewhat sandy soil, moderately enriched with well decomposed vegetable compost, is best suited to the dahlia. I make use of leaves, turf, dahlia tops, and any light litter from the garden. It is a good plan to gather these things into a heap. In one year's time it will make a nice compost to mix with the soil.

For both tubers and potted plants, I dig holes, and put into each about a quart of muck, enough to thoroughly line them. Inside of this I put a portion of clean sand, with which I entirely encircle the root or tuber. The sand will preserve the roots from rotting, also from insects. The muck will keep them moist. The little rootlets or feelers will penetrate through all this, and draw what nutrition the plant requires for blooming, and at the same time be prevented from too rank a growth of stalk and leaves. New roots grown in this way will keep much better through the winter, and flower better the ensuing season. I have tried various other methods with partial or imperfect success. In this I am always sure of the most satisfactory results.

Pansies.—I make it a rule to throw out of our grounds all diminutive or imperfect flowers as soon as they appear. If this, with the other conditions mentioned, are attended to, pansies will not deteriorate.

Oneida Commune. Mrs. E. G. Hawley.

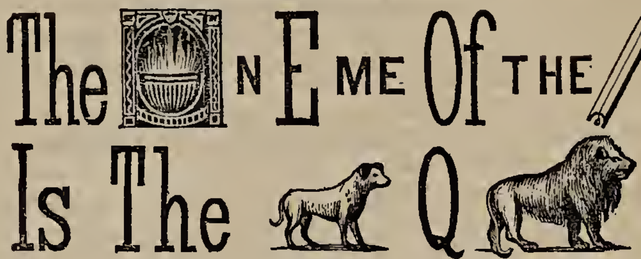
◆

BARN CELLARS FOR STOCK.

Messrs. Editors—A correspondent inquires about underground barns for stabling, and if my experience is worth anything to any one, they are welcome to it. In 1861 I built an underground barn, and have used it ever since with almost perfect satisfaction—the only drawback being the water trickling down the walls when the snow is going off, and the frost coming out of the ground—then the ground is open or the earth-conductors filled with ice. At such times and no other, the stalls near the walls are damp; but my stables are so arranged that but two stalls come near the walls. The barn floor runs lengthways of the barn, and the root cellar is under the floor, and next to the main wall. This is 12 ft. wide; the next 12 ft. is a row of stables heading towards the cellar, and fed from the floor above or roots from the cellar; the next 12 ft. is an open shed fronting the yard, but still under the main barn, and is used for manure thrown out from behind the cattle through swing doors, 16 inches wide, extending from post to post, and shut down only when the weather is very cold, thus giving a free circulation of air up through the feed-hole over the mangers, which are never closed, cold or hot. These stables are always dry, well ventilated, and as healthy as any man or beast can wish for, and as handy as need be. The space where the manure lays, or rather the yard, is one foot lower than the floor of the stables which lay on the ground. But we will now turn to another picture: My barn is built on the very top of a small hill or knoll, and is dry, gravelly land, everything running away from the barn; I have visited many barns that were built on, or rather in a hill-side, with moist, high ground above them, and nine months in the year soak water is running into the underground part or basement, which keeps it damp, chilly and unhealthy in spite of all ventilation. When I open a stable door and step in, and a damp chill comes over me, I think it is no place for anything to be confined any length of time. L. F. Scott.

Bethlehem, Ct.

Illustrated Rebus---No. 11.



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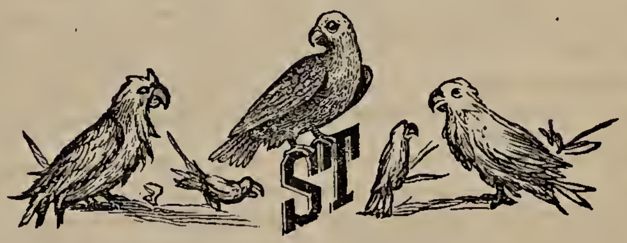

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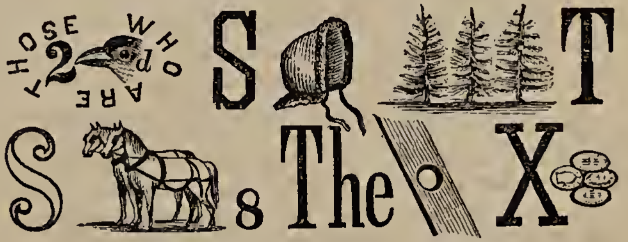

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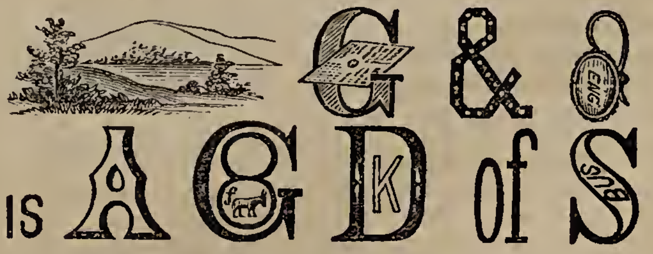

Answers to Illustrated Rebus.—No. 7. "Hold inviolate what you assent to in all understandings."—No. 8. "To accumulate wealth use all honest and honorable efforts, but regard over-reaching as infamous."—No. 9. "City belles and beaux underrate cultivators of the earth, and cannot understand domestic happiness."—No. 10. "The New Rochelle Blackberry bears in profusion when shortened in properly." (The gnu-row-shell-black-bear-e bears-in-profusion w-hen, &c.)

Experiments with Salt as a Fertilizer.

Eds. Co. Gent.—Agreeably to your request we send you an account of our experiments in the use of salt as a manure.

Our farm is situated geologically on the upper measures of the Hamilton group of shales, probably a trifle below where the Tully limestone makes the dividing line between the Hamilton group and the Genesee Slate. The Tully limestone is not found in place on our ridge, and Mr. Geddes supposes that the lime, at the time of its deposit was absorbed in the clay slate, and in support of this theory is the fact that all of the spring water is hard, and some of the layers in our quarries are very hard, and of a bright blue color.

Our soil is composed principally of this rock, in a thoroughly disintegrated state, mixed with a very little drift deposit, and forms what is considered in this region a clayey loam. The fields are well drained, but not what is usually termed thorough-drained.

Our farming operations are governed somewhat by the altitude of our situation, which we suppose to be about 1,650 feet above tide—Pompey Hill, about two and a half miles south of us being 1,743½ feet. Great portions of the farm, if indeed not all of it, were once cultivated by the French or Spanish from two hundred to three hundred years ago. Some portion of it was cleared by the present race as early as 1795, and the last was cleared in 1835.

We first sowed salt as a manure in the spring of 1861; mixed three bushels of salt with one of plaster, and sowed of the mixture three bushels to the acre. Sowed it broadcast, from three to ten days after the grain was sowed; did not harrow or roll afterwards.

A field of spring wheat of ten acres yielded twenty bushels to the acre, while a neighbor's field, merely across the road, of equally as good soil, and as well cultivated, did not produce over five bushels to the acre. The ground was plowed and the seed sown on the same days.

Another field of our own we partially sowed in strips of one rod in width, sowing and skipping alternate strips. The soil in this field was in better condition than the first field; still, taking the whole field, it did not yield more than ten bushels to the acre. The six or eight strips that were salted were taller, heavier, longer headed, better filled, plumper berry, ripened earlier, and brighter straw. The salted and unsalted portions were as easily distinguished as the strips in a carpet, and in binding the grain behind the cradle any man could have told the difference blindfolded.

In 1862 we tried the mixture on barley, peas, oats and winter wheat. The effect on barley was astonishing. We left a strip of land a rod in width across the field that we did not cover. Here the barley was so small and thin, and crinckled down, that the machine could not cut what little there was; while the whole field yielded over forty bushels to the acre.

Another field on another part of the farm was nearly as good, although in 1856 it absolutely refused to give us more than ten bushels to the acre, and we stopped raising it.

On the oats we had no opportunity of testing it with any near us; we salted the whole field, and had the largest crop we ever raised. On peas we had no opportunity to test it with others, had a large crop, but the vines grew too long. On winter wheat thought it did great good, but had no chance for a decided test

In 1863 we sowed two fields of barley; upon the side of one we left an acre unsalted, and the crop on this portion was not half as great as on that portion to which the salt was applied. This field was a heavy sod; the other field was the one on which barley and peas were sown the year previous; had an excellent crop, but no particular test.

In 1864 we covered two entire fields of barley with the salt and plaster; the great drouth did not seem to affect one field, the first one sown, but little; but the other one was greatly injured. We had heavier crops than our nearest neighbors, but no better than some within a mile of us.

We think that the increase in the value of the straw more than pays the cost of salt, as a manure, and its application. Sweet Brothers.

Onondaga Co., April 6, 1865.

* * *

Are Italian Bees as Hardy as Black Bees?

Propagators of the Ligurian species claim them to be more hardy than the common bee, and we have never seen their statements called in question. The writer has had a little experience the past winter, that leads him to question the truth of the assertion.

He wintered fourteen stocks in the open air, in double hives with top ventilation—thirteen in Langstroth hives, and one Kidder's Compound Hive. No air was admitted at the bottom, except what might enter through the joints of an unplaned outer hive or case. The hives were examined at different times during the winter, and found quite free from dampness or frost in the breeding chamber. Three hives were ventilated by leaving the honey-board off; the remainder by leaving about one-half of the holes in the honey-board open. All were good strong stocks. Out of the fourteen, two died of starvation with plenty of honey in the hives. The cold chilled them, and they were unable to change their location when they had consumed the stores in their immediate vicinity.

One of these stocks was a pure Italian, and extra strong in numbers. It was ventilated by leaving one-half the blocks off the honey-board, and the combs were found dry and free from frost. The other stock was a hybrid; the queen a pure Italian, mated with a black drone. The condition of the hive similar to the Italian. One stock of the twelve remaining was a hybrid, produced by the mating of a black queen with an Italian drone. This stock, and ten stocks of black bees, came through strong and vigorous. Out of the fourteen stocks one remains to be accounted for, and this was a full Italian, and lost full two-thirds of its numbers—suffering nigh unto death—but now commencing to breed vigorously.

From the foregoing it will be seen, that of the stocks that died one was a pure Italian, and the other a hybrid, and the only remaining stock that suffered severely was also a full Italian. Has anybody else had similar experience? Let us hear both sides of the question.

It is possible that the Italian or Ligurian bee may prove sufficiently hardy for the latitude of Southern New-York, Ohio and Illinois, but not for our more northern regions, where the thermometer sinks to 25 or 30 below zero, without giving them extra winter protection. Isolated cases should not be too confidently relied upon, and I hope all will give us the benefit of their experience. L. L. Fairchild. *Rolling Prairie, Wis.*

* * *

Baked Beans without Pork.

Excellent in taste, easily digested, good for dyspeptics, free from swinish flavors. Soak a quart of beans in water over night; draw the water away; boil in clean water until soft; put in a baking dish with a lump of butter the size of an egg; salt and pepper, and bake as usual.—*Middlebury Register.*

DRAIN TILE MACHINES.—The undersigned having relinquished the business of the manufacture of Drain Tiles, will dispose of their machines at a low rate for cash. Address C. & W. McCAMMON,
April 20—wtfm1t. Albany, N. Y.

DO YOU WANT WHISKERS OR MOUSTACHES? Our Grecian Compound will force them to grow on the smoothest face or chin, or hair on bald heads, in six weeks. Price $1. Sent by mail anywhere, closely sealed, on receipt of price. Address WARNER & CO.,
April 20—w&m3mo. Box 138, Brooklyn, N. Y.

SUFFOLK PIGS.—Six weeks old; per pair, $25; single ones, $15, boxed and shipped, for sale by
T. L. HARISON,
April 6—w8tm2t. Morley, St. Lawrence Co., N. Y.

THOROUGH-BRED DEVONS—From choice stock. Some fine Dairy Cows and their progeny for sale, all having an *approved record*. Send for a printed Catalogue, with pedigrees and prices. P. M. AUGUR,
March 2—w&mtf. Middletown, Ct.

GOODRICH SEEDLING POTATOES by mail, prepaid, for 25 cents per pound. GARNET CHILI, CUZCO and PINKEYE RUSTYCOAT, per barrel, $3.50. Circulars free. P. SUTTON,
March 23—w3tm2t. Ransom, Luzerne Co., Pa.

PURE BRED CHESTER COUNTY WHITE PIGS, PRINCE ALBERTS and SUFFOLK PIGS for sale. Apply to R. L. PELL.
March 30—w5t. Esopus, Ulster Co., N. Y.

SHORT HORN BULL FOR SALE.

Mosstrooper,

5025, bred by Samuel Thorne; calved Feb. 24, 1860; got by "2d Duke of Thorndale," out of "Minewawa," by "Neptune," &c. Color red, with a little white; gentle disposition, and in good working condition—weight, 2,500 pounds.
March 16—w4tm2t. C. I. HAYES, Unadilla, N. Y.

THE BUCKEYE HORSE-HOE

Makes Labor Light.

Enclose Stamp for PERPETUAL ALMANAC, with cut, price, &c. HEMAN B. HAMMON, Patentee & Manufacturer.
April 13—w&m1t. Bristolville, Trumbull Co., Ohio.

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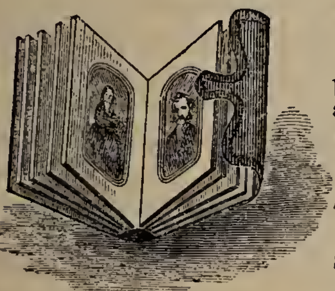
MILLION.



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Mar 16—w3tm2t.

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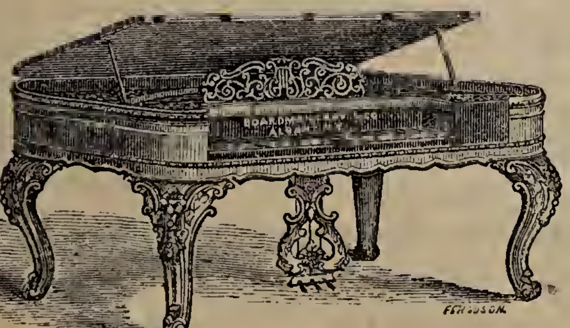

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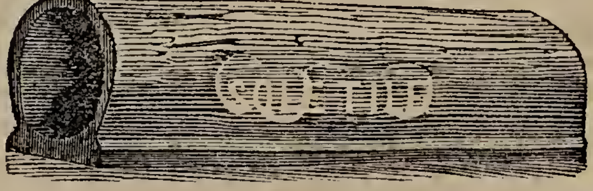

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VOL. XIII. ALBANY, N. Y., JUNE, 1865. No. 6.

PUBLISHED BY LUTHER TUCKER & SON,
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TERMS—EIGHTY CENTS PER YEAR—Ten copies of THE CULTIVATOR and Ten of the ANNUAL REGISTER OF RURAL AFFAIRS, with one of each free to the Agent, Eight Dollars.

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Notes from Eastern Ohio and West Virginia.

STEUBENVILLE, OHIO, April 18. 1865.

EDS. CO. GENT.—I left home chiefly for the purpose of attending the sale of horses and sheep advertised by Wm. H. Ladd, to take place at his late residence, near Richmond, Jefferson county, Ohio, on the 12th.

The weather, always an important element in reference to the success of sales of stock by auction, was quite unfavorable for several days preceding the sale, considerable rain having fallen, which made the hilly roads of this section almost impassible in places for carriages. The rain continued to the day of the sale, winding up, however, with a heavy shower in the forenoon. Still about 400 persons assembled, a fair proportion of whom evidently came to *buy* if they could at their own figures.

Mr. Ladd had previously sold his farm, and also sold to the purchaser of the farm his sheep, with the exception of about 50. These consisted mainly of the imported Infantado-Nigretti from Silesia and their descendants, and a few crosses of these with other families of Spanish sheep. The prices obtained may be considered, on the whole, satisfactory—the ewes (excepting lambs of last year) averaging something over $100 each. Some imported ewes, although 14 to 15 years old, with lambs at their sides, brought upwards of $100 each. The heavy, fine fleeces, now borne by these old sheep, and the size and vigor of their lambs demonstrate the strength of constitution which this family possesses. I never saw so much or such good wool on any sheep of their age. Some of the ewes that were two years old this spring brought $220 to $245 each, and one brought $301. The purchasers were from various portions of Ohio, and a few from western Pennsylvania and West Virginia.

It is gratifying to see that this valuable variety of sheep is appreciated. There is reason to believe that in the hands of men who will do them justice as to care and attention, they will prove very profitable. My observations among the flocks of the West lead me to think that the use of Silesian rams in many cases would be the readiest means of bringing the wool to a high standard of value. This remark is particularly applicable to grade merino flocks, or those in which purity of blood has not been adhered to. On such flocks the Silesians impress their characteristics very strongly.

Mr. Ladd has evidently bred his sheep with much judgment, as those bred by himself are fully equal to the imported stock. I am pleased to say that he has donated a fine ewe and lamb to the Michigan Agricultural College.

Mr. L.'s horses sold tolerably well. The mares brought from $200 to $500 each, and the young stock proportionate prices. The mares were mostly got by Champion Black Hawk and Black Hawk Second (formerly Champlain.) Only one of the stallions, Allen Sontag, was sold. He was struck off at the low price of $785. He is a horse of rather small size, but very compact, and firm in texture, and a splendid trotter. The other stallion, Provincial Chief, having been temporarily injured a short time since, was not offered. He is a very fine horse. There was not time to sell all the horses, and as those which Mr. L. least desired to part with were reserved till the last, six or eight of the very choicest remained on his hands, *and he is very willing to keep them.* They are very superior animals, as were many of those sold.

Although Mr. Ladd has sold his farm and the greater portion of his stock, I am glad to learn from him that he does not propose to give up stock-breeding altogether at present. He will be located for this season on the farm of his brother, James D. Ladd, adjoining that which he lately sold. His ultimate plans are not yet fully formed.

The farm lately sold by Mr. L., as well as that of his brother, and others in the same neighborhood, is very fine for grazing, the soil readily becoming covered with a sward not surpassed by that of the "blue grass region" of Kentucky. But the country is very broken, and the roads very bad for a considerable portion of the year, while the nearest point on a railroad is four miles. These and some other causes induced Mr. L. to make a change. Mr. J. D. L. is engaged in business in Iowa, and may conclude to sell his farm. The farm sold by Mr. W. H. L., consisting of about 300 acres, brought $21,000. The stock sold brought about $10,000.

Since attending the sale above mentioned, I have been across the river, and have seen some of the noted flocks of sheep of West Virginia. I first called on the Hon. Jesse Edgington, at Holliday's Cove. His flock has long been celebrated as one of the best in the country. More than 20 years ago his wool was spoken of by Mr. Samuel Lawrence, then of Lowell, Mass., as of very superior quality. He commenced the breeding of sheep with stock obtained from Messrs. Wells & Dickinson of Steubenville, and for nearly forty years adhered entirely to that blood. Within the last three years he has infused the blood of the Silesian sheep into a portion of his flock, and still later he has used a Vermont Merino ram. But the older sheep of the flock are still of the Wells & Dickinson blood. They are very handsome sheep, not large, but showing fair constitution, and a striking uniformity of type. It seems to be the almost universal testimony of the sheep owners of this section, that the Wells & Dickinson stock, as it was in its pristine purity and excellence, has never been surpassed by any other introduced here — quantity and quality and value of fleece, being the criterion. The cross of this stock with the Silesian is good; in most cases the fleece is thickened without any deterioration in quality of staple. The cross with the Vermont Merino gives a more yolky fleece of greater weight, but not so fine.

Mr. Edgington has donated a splendid ewe of the old stock to the Michigan Agricultural College. He keeps about two thousand sheep, half of which are at the home farm, and the others at a farm several miles distant. Mr. E. has reached a great age, but still manifests much interest in his sheep and farms. His nephew, John H. Veirs, Esq., has the general supervision of business affairs, while the experienced and intelligent shepherd, Mr. Hull, is careful to sustain the fame of the Edgington flock.

In company with Mr. Veirs I visited Talbot Hammond, Esq., some half-dozen miles from Wellsburgh, Brook Co., West Va. He has a flock of upwards of one thousand sheep. He began breeding sheep in 1822, with a few animals obtained from Messrs. Wells and Dickinson. Of late years he has made some crosses with the Silesian, but more with the Vermont Merino. At the present time a considerable portion of his flock may be said to be from a quarter to half of the latter blood. He has, however, selected his breeding stock with reference to preserving in a good degree the fineness of the old stock, and he has some very choice sheep—of good size, compact and handsome in form, with heavy and fine fleeces.

The character of all this region is admirably adapted to sheep. The country is very broken, having apparently been in the long lapse of ages, formed into sharp, small hills from an original plain. The soil is mostly tenacious limestone loam, very productive in grass, and good for all kinds of grain and fruit; but the unevenness of the surface renders cultivation by the plow expensive. It does not wash badly, however, as the soil seems to turn off water as though it was *greased*. The blue-grass (*Poa pratensis*) forms the principal herbage of the old pastures, and beautifully green, thick, and fine is the sward, even on the tops of the narrow ridges. But the roads over this broken country are about as *hard to travel* as any we read of. At this time they can scarcely be passed over with carriages, and horseback riding is resorted to by all who go from home. SANFORD HOWARD.

No. 36---THE APHIS ON HOPS.

An insect which had never been before observed in our country that I am aware, has, during the two past years, occurred in excessive numbers upon the leaves of the hop plants, whereby these years have been the most disastrous to the extensive hop growers in the central section of our State, which they have ever experienced. The hops in some yards have not been picked, and a portion of those which have been gathered in other yards, it is said, ought never to have been dried and put up for market, they were so small and worthless; while the best which have been grown have been of an inferior quality, the bitter principle on which their value depends, having been deficient, according to published reports, to the extent of from 15 to 25 per cent.

The newspapers and agricultural periodicals have contained several notices of this failure of the hop crop; and from the accounts which they have given, it would appear that there are three different maladies with which the hop vines of this country have recently been invaded—namely, the aphis or plant-louse, the honey-dew, and the black blight. The first of these, the aphis, is a soft, pale yellowish green insect, not so large as the head of a pin, which fixes itself upon the underside of the leaf, and there remains stationary with its minute beak inserted into the leaf and sucking out its juices, and multiplying rapidly, whereby the whole under surface of the leaf becomes covered with these insects, crowded as closely together as they can stow themselves. The honey-dew appears on the upper surface of the leaves as a shining, clear and transparent fluid, sticky and resembling honey smeared over the surface. The black blight also occurs on the upper sides of the leaves, and resembles coal-dust sifted upon and adhering firmly to them, or the leaves look as though they had been held in the smoke of a chimney until they were coated over with soot. This blight is supposed to be a peculiar kind of fungus, growing from the leaves, analogous to the rust and smut in grain, and some of the newspaper correspondents occupy themselves wholly with an account of it, deeming it to be the principal cause of the failure of the crop, and taking little if any notice of the lice.

But the truth is, these three maladies of the hop vines are all one thing, differing only as cause and effect. If there were no plant-lice upon the hops, there would be no honey-dew and no black blight. I am so perfectly assured and certain of this that I do not hesitate to state it in this positive and unqualified manner. And I will now explain how these substances, the honey dew and the black blight come upon the leaves.

Each aphis has two little horns projecting from the hind part of its back, which horns are termed the honey tubes. From these tubes the fluid called honey-dew is ejected, in the form of minute drops like particles of dew, which falling upon the leaves underneath them, the upper surface of the leaves becomes coated over with this fluid, more or less copiously as the lice producing it are more or less numerous. And now, this deposit of honey-dew being exposed to the action of the atmosphere, and alternately wetted with the dews at night and dried by the sun by day, is gradually decomposed, changing from a clear, shining, transparent fluid, to an opake, black substance resembling soot, and it is then the black blight. In this simple manner do we account for and explain these phenomena, these important maladies of the hop, about which so much has been said and some writers have attempted to display so much erudition. This honey-dew and black blight are not peculiar to the hop, both occurring upon various other kinds of vegetation when badly infested by plant-lice, as I have observed in very many instances.

This aphis proves on examination to be the species known to men of science as the *Aphis Humuli* or the Hop Aphis, an insect which has long been known in Europe as the worst foe with which the hop-growers there have to contend. Messrs. Kirby and Spence in their Entomology, (p. 135, American edition,) speak of it as follows: "Upon the presence or absence of the Aphides, the crop of every year depends; so that the hop-grower is wholly at the mercy of these insects. They are the barometer that indicates the rise or fall of his wealth, as also of a very important branch of the government revenue, the difference in the amount of the duty on hops being often as much as £200,000 per annum, more or less, in proportion as this fly prevails, or the contrary."

The group or family of plant-lice are the most evanescent of all insects. Particular species of them will be excessively numerous one or two years, and will then rapidly diminish and disappear. Nay, the same season, we sometimes observe a plant or shrub having the stalks or leaves thronged with myriads of them, and in a week's time it may be that not one of them is remaining. This sudden disappearance is commonly caused by other insects destroying them. No other tribe of insects has so many enemies of their own class as the plant-lice. The different species of Coccinella or lady-bugs which are everywhere so common, live exclusively upon them, as do also the larvæ of the two-winged Syrphus flies and the four-winged Golden-eyed flies. Superadded to these destroyers they have also their internal parasites, exceedingly minute worms or maggots, residing within the bodies of the plant-lice, and there feeding upon until they kill them. Thus, wherever a tree or shrub becomes thronged with plant-lice, these destroyers become gathered among and around them, in rapidly augmenting numbers, and subsist upon until they have utterly exterminated them.

These several kinds of destroyers were everywhere common upon the hop vines the past year. I believe that in every instance in which leaves with these lice upon them were sent me by correspondents, I found one or more of these destroyers also upon the leaves; and in one box that came to me not one of the lice was remaining, all having been killed and devoured by some of their enemies which had happened to be enclosed in the box. These destroyers having been so common, it is quite probable that they have subdued these lice to such an extent that the approaching season the crop will be far less, if at all, damaged by them.

It is of great importance, however, that we should have some remedy, whereby, whenever these insects do fall upon the hop vines in such swarms as they have done the past two years, we may be able to promptly destroy them.

Washing and syringing plants with strong soapsuds has been often recommended for killing the plant lice upon them. I have recently been experimenting with this remedy, and have ascertained its effects to my satisfaction. It kills all the young, tender lice; but those which are grown up to maturity are so robust that they are not destroyed, even when the infested stems and leaves are immersed in a strong solution of soap.

There is one remedy, and one only, which we know to be perfectly sure and efficacious for instantly destroying the different species of plant lice. This is the smoke of tobacco. It operates like a charm. It never fails. But to apply it, it is necessary to place a box or barrel over the plant, burning the tobacco in a cup underneath, until this smoke has filled the enclosed space and has penetrated all the interstices between the leaves. Hereby rose bushes and other garden flowers and plants are readily freed from these pests. For applying it to trees or lofty plants like the hop supported on its pole, a large cloth thrown over and enveloping them will probably suffice, or some other convenient apparatus for this purpose may no doubt be devised, it being perfectly certain that every aphis in the hop-yard can be smothered, and the vines wholly cleansed of these vermin by this remedy.

East Greenwich, N. Y., April 8. ASA FITCH.

HOW TO MAKE HARD SOAP

The following recipe has been in use in my family for several years, and I never knew it to fail of producing a superior article for all purposes. I think if Mrs. H. D. will try it, she will be quite satisfied with the result: Five pounds of lime slaked in 12 quarts of boiling water, 5 pounds of sal soda dissolved in 12 quarts of water; mix it together and let it stand from 24 to 48 hours. Dip off all the water free from lime; add to it (the water) 3½ pounds of clean grease; let it boil up, then add 2 ounces of rosin, and boil the whole till it thickens, which usually takes 3 or 4 hours. Have ready a tub, or other convenient vessel, wet; pour in the soap, and when cold cut in bars, and dry well before using, and I will add that no one need be alarmed at the shrunken and shrivelled appearance it assumes during this process, or imagine that it has lost any of its good qualities because it does not look "as good as new."

We make a double rule—weight when green 42 pounds, and it cost us this year just 2⅛ cents per pound.

Amenia Union. Miss C. C. R.

Eds. Co. Gent.—I notice in the Co. Gent. of April 6th, an inquiry for a good method of making hard soap: Pour 4 gallons of boiling water over 6 pounds of washing soda and 3 pounds of unslaked lime. Stir the mixture well, and let it settle until perfectly clear. When clear, strain the water and put 6 pounds of fat with it, and boil 2 hours, stirring it most of the time. If it does not seem thin enough, put another gallon of water on the grounds, stir and drain off, and add as is wanted to the boiling mixture. Its thickness can be tested by occasionally putting a little on a plate to cool. Stir in a handful of salt just before taking off the fire. Have a tub ready soaked, to prevent the soap from sticking; pour it in and let it settle until solid.

Montgomery Co., N. Y. LIZZIE.

Onondaga County.—The Onondaga County Wool-Growers' Association will hold its first Exhibition at Syracuse, Thursday May 4th. A. F. Wilcox, President; H. D. L. Sweet, Secretary.

BREEDING HORSES.

Last autumn we had occasion to refer to the principles on which the breeding of the best Horses appears to be founded, so far as we are able to judge from the lessons of history and experience. These principles we should have attempted to elucidate at greater length, but for the confident anticipation that several correspondents possessing a long and thorough familiarity with the subject, would have taken it up—thus affording us the opportunity to supplement their contributions with any farther expression of our own views which might seem desirable. When we speak of the *best horses,* however, a word or two of explanation may be necessary.

Taking the *working horses* of this country as a whole, we have been inclined to think that for many purposes something of the greater weight characteristic of the British Agricultural Horse, such as the Clydesdale and Suffolk, or of the Norman in France, and particularly of that branch of this family called from its native district the *Percheron,* and of which several importations have been made here—might be most advantageously introduced. Several specimens of the last mentioned breed are now accessible to the farmers of Eastern Massachusetts, through the efforts of the Society for the Promotion of Agriculture in that State. The infusion of such blood must result in a class of animals much needed for the draught of heavy loads, both for city and country, and judicious breeding in that direction could hardly fail to yield satisfactory if not very brilliant success.

But the popular current with us is in favor of more activity and speed, even at some sacrifice in actual power. The farmer does not keep three or four teams expressly for heavy work, and one or two more for his carriage and for lighter loads. It is an aggregation of various kinds of excellence which most of our horse breeders are seeking. And in view of the demand before them, perhaps that may be considered the *best horse* for them to breed, from which they have some probabilty of winning laurels for remarkable speed—from which those not turning out so superior as trotters, have yet the size, elegance, spirit and bottom required before the carriage,—and, lastly, at least sure to command a much better price from practical men, if neither sold at fancy rates for stylish turnouts, nor taken on to the track, than the mongrel colts commonly reared for roadsters and farm use. This may seem to involve diverse requirements, and yet we have had horses here which would not fall far short of such a standard. How the excellence of the product may be rendered more certain for the breeder, is the great question.

A writer on the subject in several recent numbers of the Boston Cultivator, over the signature of "An American Breeder," whom we take to be a gentleman well known for his successful application in practice of the theories to which he refers,—adopts and strongly advocates two propositions laid down by the late W. H. Herbert, as proved and illustrated throughout the whole annals of horse-breeding here as well as abroad. The propositions are these:

1st. That the excellence of any and every breed of horses, and of every individual horse, consists in his possession of the greatest attainable degree of pure thorough blood, directly traceable to Barb, Arab or Turk, that is compatible with the weight, bulk, and strength in hauling, required for the purposes for which the horse is intended.

2d. That to be of advantage, the pure blood must come chiefly from the sire's, not from the dam's side.

Under the former of the two propositions, he contrasts the results obtained by "the judicious breeding of the Thorough-bred stallion upon mares of our common stock, selected for their large size and bone," with those cases in which "the breeder, through a mistaken economy, or want of foresight, stints his mares to undersized mongrel or grade stallions, because a small fee is demanded for service, or because the horse happens to be in convenient proximity to his farm, or, as is often the case, because the stallion, perhaps of unknown pedigree or blood, happens to be a chance trotter, and the breeder has visions of a foal which shall 'come down in the twenties,' and therefore command a price high up in the thousands."

This point he illustrates by the following incident from his own experience:

"A large, powerful, roomy mare, not thorough-bred, but having a large infusion of good blood, was stinted to a large-sized Morgan stallion, and the produce was a filly which, at 6 years of age, stood 14½ hands high and weighed 950 lbs. She was next stinted to a Black Hawk stallion of good size, and brought a filly, which at maturity stood 14 hands high and weighed about 900 lbs.; she was then covered by an imported thorough-bred stallion and produced a colt which at 6 years of age stands 16 hands high and weighs 1050 lbs.; she was again covered by the same horse and produced a filly now 5 years old, 16 hands high, weighing over 1000 lbs. Her next cover was by a very powerful thorough-bred stallion, and the produce a colt now coming 3 years old, stands very nearly 16 hands high; she was then, again, stinted to the imported thorough-bred first named, and brought a filly now nearly 2 years old, very large and promising. Her last foal, now coming 1 year old, was by another imported thorough-bred stallion, and bids fair to excel either of its predecessors in size and style. Here, now, is an instance of a mare producing foals by 5 different stallions, 2 mongrels or grades and 3 thorough-breds. The foals by the first-named, (both good stallions of their class, and both good trotters,) proving very inferior in point of size and style to those got by the thorough-breds, and, moreover, the trotting power of the foals got by each of the three thorough-bred stallions is decidedly superior to that displayed by either of the foals got by the former stallions. It may be said that this is an exceptional case, and what is termed by breeders a 'hit,' or 'nick,' but it would seem somewhat remarkable that the mare should 'hit' with three different thorough-bred stallions, while her foals by trotting stallions were inferior to herself."

As to the second proposition above laid down, we may simply take occasion to say that pure blood on the dam's side has often been the only cause to which great superiority of offspring could be ascribed—a fact, however, which should lead no one to neglect the proper requirements in the sire.

There are those, it is true, who entertain the impression that thorough-bred blood is antagonistic to trotting superiority. The article before us shows how unfounded in point of fact is that opinion, and cites the records to prove "that a very large proportion of the celebrated time-trotters in America are and were three-quarters or seven-eighths Thorough-bred, and some of the first class were Thorough-breds." The instances quoted in support of this statement we have not space to copy now, but may give room to them hereafter.

Prices of Wool and Mode of Marketing.

An article in the United States Economist of April 15th, discusses the probable future of the Wool market, taking the position that the clip of the current season must be worth at least the price of 1860, on a gold basis; that is, if the average of that season was 48 to 52 cts., that we may fairly expect, calculating gold at $1.42, a range of 68 to 73 cts. now. The quotations given in Walter Brown's New-York Wool Circular for May 1st, on "Three-quarters and Full-blood Merino fleece," are:

1. Wisconsin, Iowa, Vermont, and Illinois,... 55@65c.
2. New-York, Michigan, and Indiana,... .... 60@70c.
3. Ohio, Pennsylvania, and Virginia,...... ... 70@75c.

"Half-blood" and "Native and quarter-blood fleece" are quoted at the same figures respectively, under the first and third of these heads, and under the second, "New-York, Michigan, and Indiana," 3 cts. a pound higher than the full-blood. In other words the recent decline, from which there has already been some recovery, carried prices below what is likely to be the average value of the season, according to the Economist,—which journal, as the organ of manufacturers rather than of farmers, would not be likely to overrate the prospect in the farmer's favor. It warns farmers, in conclusion, not to rush all their wool upon the market in June, lest it should be sacrificed at a low figure.

The theory of the article seems to be that wool, taking its average value at 50 cts. in gold, will vary, in the price it brings in currency, as the premium on gold advances or declines,—in other words, that if gold should drop to 120 during the summer, wool would go down to 60, or if gold falls to par, to half-a-dollar. Now for all practical purposes, currency is worth to the farmer just as much as if gold was already at par, and it will be just as much a decline in price to him if wool falls because gold falls, as if it falls from any other reason, although he may be told that its specie value remains unchanged. That such a decline is to take place we are by no means asserting; there are so many disturbing causes combining to exert a possible effect on the future, that he must be a rash prophet indeed, who should venture to exercise that vocation at present.

It is curious to note the fluctuations in the wool market, from month to month, for a series of years. The Report of the Secretary of the Treasury for 1863 gives the monthly price current at New-York from 1825 down, a period of thirty nine years. If this is trustworthy, it would show that wool is subject to fluctuations of price more frequently in the winter than in the summer months. In June the price has been, as a rule, not very far from the average of the whole year; just at the average in 9 cases, somewhat above it in 22 cases, somewhat below it only in 8. In 1862, wool was at its lowest point in June, at its highest in October, but this was doubtless owing to the first rapid advance in gold, from 103 to 137, after which both wool and gold fell off temporarily in November and December.

We do not mean to intimate, however, that the advice given by the Economist is based on insufficient grounds. It would doubtless be preferable *not* to put the whole wool clip of the country so nearly simultaneously into the market. And yet it seems from the record quoted that the effect is less depressive than may have been generally supposed. The farmer can only judge from the daily and weekly developments of the season, as it advances, what his best policy will be as to the time of selling.

But on another point we have less room for doubt. Notwithstanding the lack of discrimination among wool buyers as to cleanliness and style of putting up fleeces, we cannot but think that a strict regard for honesty and neat appearance will *tell* in the long run. A man may be overborne by the usages of his neighborhood; but who would willingly select, for the purpose of wool growing, a locality having the reputation of half-washing its sheep, of bundling up the fleeces with a careless disregard of the amount of filth they might contain, and of entwining them with a superabundance of cordage? It is doubtless the case that buyers will seek or shun particular localities, according to the general character of the wool yielded, in these and other respects, and thus the innocent suffer from the sins of others, and here and there a dishonest man profit by the honor and neatness of his betters. Our local societies would find it fairly within their scope to do anything in their power to elevate the standard of public opinion, and to encourage a treatment of flocks and fleeces attractive to buyers and more profitable to the farmer himself. As to the organized system of puffery, claiming to be peculiarly "American" that style of Merinos which, as John Johnston pithily says, in a letter to the Genesee Farmer, "are constantly sweating something like gas tar"—we need not refer at length to this point at present. There can be nothing surer than that whatever would add to the profit of wool-growing by putting into the fleece that which is not wool, whether the same be dirty tags and string, or simply a natural "gas tar," must be only temporary in the advantage secured, if it be not indeed permanent in reducing the quality and injuring the reputation of those who adopt it. A large number of our exchanges have referred to this subject of late, one or two extracts from which appear in another column; and, among the numerous articles we have no space to copy, we may mention as calculated to carry with them great weight several of recent date in the New-York Tribune. And we may conclude by adopting the following from one of them, as applying with equal force to ourselves: "We have no personal interest in this matter, but are led conscientiously to advocate that course which we believe will be to the best interests of the farmers and the country at large."

* * *

RECIPE FOR HARD SOAP.

In answer to Mrs. H. D.'s inquiry for a recipe to make hard soap, I send the following, which I have used for four years:

6 lbs. soda—6 lbs. grease—5 lbs. lime—5 gallons water.

Dissolve the soda and lime with the required quantity of water, by boiling. When dissolved, allow the solution to settle—pour off perfectly clear, and add the grease to the *clear* solution. Boil until it becomes soap.

A solution can be purchased from druggists, which is prepared from the same compound by chemical action, which is very strong. In using which you take one pound of solution and two of fat, which makes three pounds of hard soap. I do not think the latter is any better, but it makes the soap harder, and consequently does not dry away so much as the other. The difference is, in the latter the water is evaporated before the soap is made; in the former it has to evaporate by gradual shrinkage. Mrs. D. S.

PRUNING GRAPES---ASPARAGUS.

Will you please to give me your opinion relative to the proper time to prune grapevines? According to instructions from those who professed to understand pruning, I pruned a vine in autumn after the leaves had fallen, and the following spring it bled so profusely that that portion of the laterals left for fruiting died down to the main vine, and the vine had no fruit on it that year. The next autumn I concluded not to prune it at all, and the following year the vine had 30 lbs. of grapes on it.

I have some asparagus plants one year old from the seed, which I wish to transplant. Will you please give me the necessary directions for transplanting; if in drills, how far should the drills be apart, and what distance should the plants be apart in the drills?

Canada West. M. M. HOWARD.

Grapevines may be pruned in autumn, winter or spring. If pruned in autumn they should be well covered or protected, as cutting any plant always tends to make it tenderer. The same protection should be given if pruned in winter or before severe cold weather has passed. For the very hardiest varieties this protection may not be necessary. If pruned in spring after the buds have commenced swelling, "bleeding" will be produced; but the experience of extensive grape-raisers shows this to be no detriment. Vines pruned in autumn or winter do not bleed in spring. The case mentioned by our correspondent must be an unusual one, or from accidental causes. The death of the laterals was doubtless occasioned by the cold of winter, rendered more effective on the cut vine. The killing thus produced operated like a severe pruning, and the new shoots came up below, grew more vigorously in consequence, and bore the large crop mentioned.

Asparagus must be planted very early in spring, in order that it may become well established. It is common to trench the land unnecessarily deep, and set the plants too closely together for their ample development. A depth of 15 or 20 inches is sufficient—it should be made rich with manure well worked in—and the plants have at least one foot each way, or an equivalent space. If in drills 18 or 20 inches apart, they may be 7 or 8 inches in the drill.

Protecting Peach Trees through the Winter.

MESSRS. EDITORS—Your correspondent B., of St. Lawrence Co., N. Y., in the Co. GENT. of April 14th, makes some inquiries about protecting peach trees through our northern winters—and to do this proposes "planting the trees in boxes, so that they might be turned down in the fall and replaced in the spring," —and asks—"would laying the trees down and covering with mould, litter or boughs, be a safe way of wintering?"

There can be no doubt but peach trees planted in boxes as proposed, can be safely (blossom buds and all) carried through our winters, if the trees are laid on the ground, so as to be covered with snow or evergreen boughs. If covered with "mould or litter," there might be danger of smothering the branches of the trees. But what is to be gained by planting the trees in boxes, when the same favorable results can be obtained by planting the trees in the usual manner —that is, as standards? I have grown peaches continuously, every season, for the past six or seven years, and am having the promise of a most luxuriant crop the coming season, from about a dozen trees that were last fall bent down and fastened to the ground by hooked stakes—or otherwise fastened so as to be protected by the snow.

Most of my trees are seedlings, and of various ages, ranging from six to sixteen years old. The pits were planted in rows, and the first year made a growth from 18 to 36 inches. The following winter they were killed back to within six or eight inches of the ground. The tops were cut off as low as where killed back. Side shoots or branches came from the stumps, so that most of the trees have several main branches growing out at an angle of 30 to 40 degrees. The form of the trees is such that most of the branches can be easily bent to the ground and fastened there; and just so far as they are covered with snow during the most severe cold of our winters, they are sure to produce a heavy crop of peaches the following season. Last fall some of the trees were staked down before the leaves were shed. The result was, the wood of last year's growth was smothered—covered with a white mould. From this fact, I infer that it would not be safe to cover the tops of the "laid trees" with "mould or litter" as mentioned by B.

It has been a favorable winter for the peach tree here; I have some twenty or more that were left unprotected, and they will give a good blossom. I had two choice trees that could not be safely bent down. The tops were drawn together with a large twine, and then "done up" in three or four thicknesses of straw carpet. By this process I think about one-half the blossom buds were saved.

Those trees that were protected by the snow, blossom eight or ten days earlier than those left to "bide the colds of the past winter." It is said that sometimes the peach crop is cut off by spring frosts—but I have never suffered any such loss. If the centre of the blossom bud is green and fresh as late as the 20th of March, I have never failed in having peaches. In some past winters all the blossom buds of my peach trees have been killed, when at no time in the winter the mercury has fallen below 12 or 15° below zero. Again, in a winter when the mercury went down 28° below, at three several times, the following season I had a good crop of peaches. Whether we are to have a good crop of peaches or not, does not so much depend upon the degree of cold as marked by the thermometer, as it does upon the mature ripening of the new wood and blossom buds before the setting in of cold weather. B. tells us he has ordered a few trees, and proposes experimenting in the matter, which I suppose means that he is going to experiment in growing his trees in boxes. If he exercises "due care and diligence" in the matter, I have no doubt he may succeed in obtaining fair crops every year; but it seems to me it must require a good deal of labor to water the trees in the boxes. I hope he will furnish the readers of the Co. GENT., from time to time, the results of his trials in his attempts at growing peaches in boxes. And, in the meantime, I would suggest to him another experiment: Say procure a few small peach trees, plant them in a good location, cut off the tree within 8 or 10 inches of the ground, and side branches will spring from the stumps; train them nearly horizontally. In autumn, in some way confine them to the ground, and cover with evergreen boughs. Follow this method a few years, and I have no doubt he can grow good crops of fruit every year.

Warner, April 29, 1865. L. BARTLETT.

Early Spring Pasturage---Top-Dressing.

Eds. Co. Gent.—On this 8th day of April, 1865, I have turned my cows and heifers all to pasture, stabling them at night, and feeding them what hay they will eat. I took them from pasture on the 10th of December last, making two days short of four months we were without grass butter. This early and late pasturing has been my practice for some 10 or 12 years, and the time from grass has been about four months each winter. Some years they are out until Christmas or New-Years. The winter came in unusually early last Dec., and the spring is now unusually early. I feed nay in the fall before taking them up, or have a stack of good hay from which they can help themselves. We stable at night, and feed hay as long as the herd will eat it. I can find no slop so good or cheap as grass, and this saves some hay. The hay we give out of the four months in spring and fall I reckon about equal to one month, and so you may say that my cows are at hay, stalks, &c., about 150 days in that time. Each cow of good size will consume an equivalent of two tons of hay, a little over 26 pounds per day.

This early turning to pasture gives a good start to the milk, and frequently to the early butter, and I find this practice equally beneficial to steers intended for the butcher in summer or fall. The early fresh grass is nature's physic.

And now as to the effect upon the pasture. I have a field near the barn on which I turned my stock for the above time, and the pasture was the last season double, if not tribble, to what it was when I commenced the practice above stated. I do not, however, attribute the increase of the pasture to the fact of early turning on, but to show that it does not deteriorate under this course. The field had been seeded down some 4 or 5 years before I commenced this course, and the herbage has increased by pasturage. Why should it not? There has been deposited some 8 or 10 tons of manure, including the liquid, upon each acre per year, a respectable top dressing, and this is a mode of top-dressing which will last longer than any other, for in the evaporating season it will be soon covered with grass, and moreover a hard coating soon covers the dressing.

It is quite amusing in reading many of your correspondents' remarks on top-dressing, to find them now and then interlarded with inquiries, how shall pastures be enriched and improved when they have been top dressed for ever so many years—can the favorite theory be good when pastures grow poor?

Top-dressing is now the favorite, and very good in its place. I have had my mind called to it more or less for forty years, but yet I must say the *why* and the *when* are proper inquiries. From October until March there is but little evaporation, and it may be spread during that time, especially on grass, when the early start will soon cover it. But most of our manure hereabouts is instantly put on corn ground, and that makes the compost bed for future crops. I have drawn and spread rotted manure in the fall, as fresh as it was made in the stable in winter or spring, and all plowed under in the spring for corn. On the rotted manure I find that the corn starts the best and has the larger stalk, but on the fresh the corn is better eared and the ground better for the succeeding crops. The best root crops I have ever raised have been when I applied fresh manure on grass in the spring and plowed it in directly, then let it lay and dry, and cultivate several times before planting. On one occasion I did this and sowed ruta bagas on the 4th of July, broadcast, which produced the very best crop I ever raised, but there is a risk in sowing so late of its being destroyed by drouth. Z. A. Leland.

DOOR-YARD AND BOARD FENCES.

Some seven or eight years ago, at my suggestion, some persons in this town tried the plan described below for a picket fence, where it had been found impossible to keep posts in the ground by reason of frosts and high winds. The plan proved effectual in the complete avoidance of all the difficulties heretofore pertaining to all picket and other board fences, and at the same time is the cheapest good, and good looking fence that can be made, and one that will stay made for all time if only painted over once in five or six years. We take stone blocks 8 or 10 inches thick, 10 to 14 inches wide, 2½ feet long, making them thus heavy so the wind will not blow the fence over; we dress them off a little so as to give them a finished look; we then drill a hole 3 inches deep, 6 inches from one end, in which we put a ¾ inch round iron rod, 3½ feet long, and pour in melted brimstone, which holds it fast; a half-inch hole in the other end of the stone will take in a ⅜ rod for a brace, and an eye bent on the upper end, and put on to the iron post before the top rail is put on, braces it up firmly; ¾-inch holes being bored in the rails, they are put on to the posts to nail the pickets to, and two coats of paint leaves it to take care of itself. The stone may be 10 feet apart and the rails spliced where they happen to come.

On clay soils we dig holes a little larger than the stone—2½ feet deep, and fill in with sand to put the stone on; but for garden and farm fences it is not necessary as it will all come out right when the ground settles in the spring. Where a gentleman wishes to give his fence a more heavy look, he can have his iron posts about 10 inches long above his stone, and a hole bored in the bottom of his wood posts to slip on to the rod, and the rails attached to the posts to suit the taste of the owner. In this case the stone can be as far apart as the rails are long, 12 or 14 feet. We get the stone dressed, drilled, and delivered here for fifty cents each. No patent on it. S. Massey.

Watertown, N. Y., March 30, 1865.

P. S. Since the above was written, a farmer from an adjoining town gives it as his decided opinion, that the cheapest and best way they can fence their farms is to use the stone base, the iron post, and sawed pickets as above.

To go to England.—We learn (says the Ithaca Journal) "that Hon. Ezra Cornell has just sold to Chas. W. Harvey, Liverpool, England, his Short-Horn bull 3d Lord of Oxford, just 2 years old, for $3,000. He was purchased of Samuel Thorne of Duchess Co., at $1,000, when two weeks old. We learn that we are sending more bulls to England now than receiving therefrom."

To the foregoing we may add that Mr. Thorne, as we understand, has lately received liberal offers for several animals from his herd, to go to England, but we do not yet learn that these offers have been accepted.

INDIA WHEAT.

Why don't some of the many contributors of the Co. Gent. have one word to say about this crop? It is sometimes called buckwheat, but is no more like buckwheat than wheat is like rye. The kernel is shaped a little like it, but in its growth, quality and quantity, it is not like it. India wheat is fast growing in favor with farmers in this section, (the central portions of Vermont,) and I think it ought everywhere, and I will try and tell why: first, because it is a good crop and easily grown; second, because it can be grown on worn-out land; third, because the work can be done at the time of the year when we are the least busy; fourth, because "farmer Shiftless" can raise it when he can't raise anything else.

It is readily eaten by all animals. Sheep will eat it as well as oats or corn. Fowls prefer it to oats, particularly fowls that are laying; in fact no animal, not even man, will refuse it. It will grow on any land. My practice has been, when there is any land that does not yield much profit in hay, to turn it over, even if I cannot manure it for some time, and sow to India wheat. The turf will give us a good crop the first year, and after that, after I have hauled *all* my manure, take what there is left, and eight or ten loads spread on to the surface will give a good crop, and when you get ready to manure it you will find the land in the very best of order. Some people think it terrible to hoe after, but if rightly managed it is not. Let the ground be thoroughly harrowed after harvesting, and most of the kernels left will sprout, and there is no more trouble with them. Then in the spring, by following the old adage, "a stitch in time saves nine," you will easily keep ahead of it. It can be sown any time from the middle of May to the first of July, when it is the most convenient—perhaps the best time is about the middle of June. Care must be taken in harvesting because it threshes so easy; it should be cut and raked when wet; it should be raked into very small bunches, so that it may thoroughly dry, then should be hauled in a tight box and threshed while hot. C. *Williamstown, Vt.*

SEEDING DOWN WITH OATS.

Messrs. Eds.—As a number of correspondents and others in the Country Gentleman, seem to be somewhat interested at this time on the subject of seeding with oats, I will briefly give my experience. A portion of my farm lies in the Valley of the Canadice, and is alluvia of considerable depth and fertility, and the remainder is upland, not so fertile, still enough so for profit. I have sowed from two to four bushels of oats to the acre, and carefully noted the results. I used to have very poor success seeding with oats, for the reason that I sowed my oats too thick, but for the past four years I have not failed in a single instance of getting a good "catch." I now sow two bushels on my lowland and two and a half on my upland, of oats to the acre, as early as the ground is dry enough to work well, and put on 14 quarts of timothy and 2 quarts of clover to the acre if for meadow, but for pasture on upland, 8 or 10 quarts of clover and 2 or 3 of timothy, harrow lightly, and follow with the roller. Some object to a half bushel of seed to the acre as too much, but let us see. In Vol. III Rural Affairs, we learn it has been found by careful counting that a square foot of rich old pasture, composed of mixed grasses, contains about a thousand plants, which is about seven to every square inch, and that in a bushel of clean timothy there are some 40,000,000, and red clover 16,000,000 seeds. Now in every acre of land there are 5,984,640 square inches; and, allowing every seed to grow, we have from the 14 quarts of timothy less than three plants to the square inch, and from the two quarts of clover about one-third of a plant to the same area; but some seeds will get in too deep, while others will be destroyed by insects, which will make it still thinner, so it can readily be seen that the half bushel of seed to the acre is not heavy seeding. D. B. Waite. *Springwater, N. Y.*

MULES vs. HORSES.

Eds. Co. Gent.—I have for the past four years been more and more convinced that the mule is far the more profitable animal to raise or keep for work. The following is a comparative statement of the cost of raising, value of animals, and comparative profit on raising the mule and horse. Mules got by imported or half-breed jacks will mature for work or market at two years old; the horse from four to five years old. The average working life of a mule is say twenty years; instances are known of their living to eighty years, and it is not unusual to see animals of thirty and thirty-five years of age at work regularly. The average working life of the horse is say nine years; many horses I am aware work more years, but I think it is generally conceded that the average will not exceed that time. The risk of raising a mule colt is much less than the horse, because of their more hardy nature, disease being almost unknown among them. To obtain the cost of the two animals when fit for service or sale, we will assume the cost of stallion and jack at the same price, say twenty dollars. The first year the cost of either colt is but very little, say ten dollars. The second year the cost of the mule colt and horse colt will be the same, although a mule as a general thing does not eat but two-thirds as much as a horse; it being more forward at two years old, we place it at the same cost. At this time we sell the mule, say at $200. The third and fourth year we say the horse colt costs but $25 each to raise, and is then sold at $200, which is a good average. The cost of the two animals appears as follows: Mule, cost of colt, $20; expense of keeping two years, $35; interest on cost and keeping at 6 per cent., $3; making a total of $58 cost, which deduct from its sale and add interest on money for the two years to bring it to date of sale of horse, =$200 —$58 =$142 and interest at 6 per cent., $16.84=$158.84, net profit on mule to date of sale of horse. Now the cost of horse colt, $20; expense of keeping two years, $35; interest on cost of keeping, $3; expense of keeping two years more, $50; interest on keeping, $4.50; making total of $112.50, which deduct from amount received for horse, $200, leaves profit of $87.50, or profit on raising mule, $158.84; profit on raising horse, $87.50; excess of profit in raising mules for sale over horses, $71.34, or almost as much as is realized for raising a horse.

This amount seems large, but when compared with the actual profit to the user of the animal, it is small.

The working life of a horse being 9 years, and the mule 20, one mule will last as long as 2 and 2-9ths horses. Therefore to do two hundred dollars' worth of mule work, it requires $444 44 100ths, besides interest on the cost of capital. I assume both mule and horse to be useless at the end of twenty years, which is not actually so, but near enough to show the comparison. The saving of hay and grain as fed the two animals by the army, being one-third less for the mule than the horse, amounts, hay calculated at $20 a ton and corn at $1 a bushel, to $30.51 a year. Interest averaged at ten years on entire amount of saving, $610.20=$366.12, or total of $976.32 saved in feed and interest of money, which add to the cost of horse flesh used up, $1,420.76, from which deduct the cost of mule, $200, leaves a profit of $1,220.76 for persons doing the same amount of work with mules for twenty years, over those who have horses for the same work.

The greatest difference in the world can be obtained by using good or bad animals to breed from; and if any one had a bad mule, I hope they will not condemn the entire hybrid, but seek to improve the next by crossing better bloods. R. S. I. *Nashville, Tenn.*

FEEDING RYE TO MARES.

Messrs. Tucker—In reply to W. R., in the Co. Gent. of May 4th, with regard to mares not getting with foal when fed on rye, I would say that it depends altogether upon how much *ergot* there is in the rye; but as there is always more or less in all, I would recommend not using any as food for brood-mares. Ergot is an echolic or parturient, and is sometimes used during the act of parturition to increase the uterine contractions and expedite the expulsion of the fœtus. It is a disease of rye that occurs about the time of blooming, when the young seed is observed to be covered with a white powdered matter, the seeds of a fungus, which gives the grain a mildewed appearance, arrests its natural growth, and causes its abortion. This aborted embryo gradually increases in size, passes out beyond the husk, becomes more and more deformed, acquires a purple or brown color, and forms the ergot or spur. Sometimes only a few grains in a head are affected, and sometimes scarcely one being altogether sound. Jos. C. Higgins, V. S.

Kingston, N. J.

BASEMENT STABLES.

Editors Co. Gent.—I noticed in your issue of the 2nd inst., an inquiry in relation to the healthiness of basement stables. I will give my experience with such stables. I have a barn 70 feet in front, 30 deep, fronting the south; three sides of the basement under ground; boarded in front; a row of stables across the west end for horses; a row across the east end for cows, and a row along the south side for cows; the remainder of the basement is used for roots, ground feed, straw, &c. I have generally kept from 14 to 16 head of cattle in this basement, with from three to four horses, for twenty years past. The horses are kept up the year around; the cows I generally turn out in the yard in front of the barn when the days are pleasant, but when the weather is unpleasant thye are kept in their stables. I have water in the yard, so there is no need of their going out from the time that foddering commences in the fall, until they are turned to grass in the spring.

The stables are regularly cleaned every day, and well littered. A more healthy lot of stock I have never known, for I have not had a sick cow or horse since I have used these stables. I certainly like basement stables much—they are warm and comfortable in winter, and cool and pleasant in summer.

I have a meadow near the barn, where I commence mowing for my horses the early part of fifth month. I like stabling horses through the summer, they are handy when wanted, no trouble if bad to catch, do not trample and destroy the grass, do not frolic and tear off their shoes, and the same amount of land will keep double the number or more than if turned out upon it. I have frequently thought of trying the soiling system with cows, but have not got at it yet.

APPLE ORCHARDS.

Nothing is more common in Connecticut, than to see an apple orchard ruined at the outset. For instance A. transplants a lot of inferior trees upon two acres of land, and imagines in ten years an abundance of delicious fruit. A crop of oats is taken from the land, followed by a rye or wheat crop, and the field seeded down to grass; in the fall, cattle, sheep and horses are turned in. After three years, a sickly looking tree here and there, is all that remains to show the owner's folly.

B. sets out 50 or 60 trees among the stumps of an old orchard; apple borers take immediate possession, and the proprietor soon finds his orchard a failure. In various ways more than half the orchards transplanted prove partial or total failures.

Now for the true plan: First, select your trees yourself if possible; don't allow a refuse tree to be set—it is only wasting time and care; determine that every mean scrub of a tree go to the bonfire before it finds a place in your orchard. See that the trees are carefully taken up and carefully set in well prepared ground.

2d. Let your land be carefully cultivated for at least six years. Allow no grain, except occasionally, perhaps, a crop of buckwheat, but never a crop of rye. The contrast between a cultivated orchard and a neglected one is astonishing, and the two only need to be seen to be appreciated.

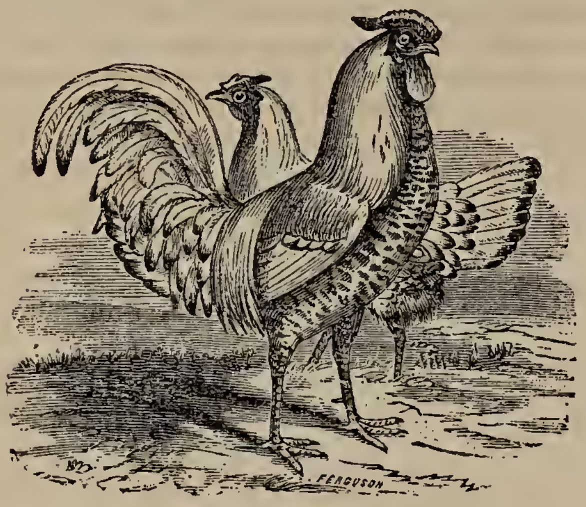
3d. Protect your trees from cattle, sheep, mice and all destructive insects; otherwise your labor may be all lost. Exclude all domestic animals. Allow no mulching to remain around the trees in winter to harbor mice, and especially watch for the apple borer, one of the most insidious enemies of the apple tree. A gallon of soft soap diluted with one or two gallons of soft water, applied to the trunks of the trees, is an excellent thing for the trees, and is not agreeable to any insect. Nothing will kill an insect quicker than soft soap.

4th. Follow up a judicious system of pruning, leaving a good spreading, open head. By pruning annually, there will be no necessity of sawing off large branches, and the result will be more perfect trees Let the motto be followed—"whatever is worth doing, is worth doing well." P. M. Augur.

Middletown, May 6, 1865.

VARIETIES OF FOWLS.

Eds. Co. Gent.—I continue my description of poultry in your valuable paper, by taking up the Hamburg race. Hamburgs are divided into five varieties. First is Black, which are pure black in feather and legs, rose comb. Second is Silver Spangled, are pure white ground, with a round black spot on the center near the end of each feather, all over the body; white in the neck, although I have seen some specimens that were good, spotted in the neck. Thirdly is the Golden Spangled, which are a golden yellow ground, with spots like the Silver Spangled. Fourthly is the Golden Pencilled, golden yellow ground, like golden Spangle, with black bars across the end of each feather, with golden neck hackle, pure, without a spot to be seen. Fifthly is the Silver Pencil, [known as Creole or Bolton Grey,) which are a pure white ground, with black bars on each feather, with pure white neck hackle. All Hamburgs have rose combs and blue legs, except the black; the cock will weigh from 3 to 4 pounds, and the hen from 3 to 3½ lbs.; are non-setters and good layers of small white eggs; hard to raise in this northern climate. I consider them worth nothing, except for eggs and their looks.



GOLDEN SPANGLED HAMBURG.

As I have described, in my last communications, the White Polands, I will now continue the Poland race, which are the White, Black, Golden and Silver. The Black are pure black in feather, with large white tops, bordered with black, (all others are not pure,) black legs and bills. I have seen good specimens with yellow legs, although I think they are crossed. Golden Polands are golden yellow in feather, with black spots, like Golden Spangled Hamburg, with large brownish red tops, with blue legs. Silver Polands are pure white feathers, with spots of black like the golden all over the body, with large silverish yellow tops, with blue legs. The Polands all have combs alike—a small comb in front of top with two points; are good layers of fair sized eggs, and considered non-setters; are hard to raise, like Hamburgs. I think them of no great value, except the Yellow Legged Polands, which differ from the rest, being easy to raise, and as good to eat as any fowl, except pure Dorkings.

Hamburgs and Polands are small eaters, eating less than most fowls, except Dorkings and one or two kind of games.

I will here say a few words about geese. My first choice is the White China, although not quite as large as some, but are more stately and proud than any other, having long, slim necks, orange colored legs and bills, with a knob on top of head next to the bill; will pick as many feathers as any goose, except Bremen or Toulouse, and nearly as many as they will; will lay more eggs than any other, as they will breed two or three times a year; there are but few in the country, therefore sell for large prices, as high as $12 to $16 a pair. I know of some being sold for more than that. L.

MY EXPERIENCE WITH BEES.

Messrs. Tucker & Son—Feeling quite an interest in the bee question, I carefully read all articles I find in the Gentleman or elsewhere. Care of bees has been a favorite pastime with me for some thirty years, and I have experimented somewhat extensively with them in management and style of hives. In my early boyhood and for several years, my father used the old box-hive (without top boxes) of various sizes, holding from 50 to 150 lbs. of honey, the stocks in large hives sending off three and oft times five swarms in a season, besides storing large amounts of honey. The large boxes were the most profitable. By and by the top-box hive was introduced—consequence, less honey in pretty boxes, and less swarms. I have set one box top of another, and obtained 50 to 75 lbs. and over of honey—have built non-swarming hives, obtained some 100 lbs. a season, but have satisfied myself that large stocks pay best—allowing them to throw out one swarm a season unless it is not desirable to increase the number of swarms. But the great reason why no more honey is obtained from swarming stocks is the want of proper room to store it. This I discovered years ago, and have tried various ways to remedy the evil, and have abandoned one after another, it not being quite to my mind. If a box large enough to hold all the honey a swarm may gather in a season, is put on, it is too large, receives too much of the warmth of the breeding apartment, and there is not spare bees enough in the spring to keep it, and spiders and other insects get in.

But an extension surplus honey receptacle is the thing; and I am somewhat indebted to L. L. Langstroth for the idea. I have two modes of use—one with the movable comb frame and slide partition, allowing the bees to commence on one side, and as they need room enlarge; and when the first combs are full, and the bees need more room, remove them, suppying empty frames. My other mode: Take a box, any size you please, saw into several, for one, two, three or more combs as you like, stick on guide combs where the combs are to be built, and then place them over your hive, letting your bees have access to a part at first; afterwards as they fill, give more room. You will slide glass or tin between your boxes for partitions, and let the bees into the supers as soon as they can gather honey. In one trial I have had 100 lbs. stored in three months by this management.

With this mode of management the bees will have just the room needed, and keep to work all the time of the honey season without having to lie idle while a part of the bees finish up a small box, and then perhaps the owner does not take it off for some time, and a valuable honey harvest is partly lost, to say nothing of the disturbance to bees in changing boxes.

Superiority of the Italian Bee.

Mr. Fairchild inquires in regard to the hardiness of Italian bees, after relating some of his experience. I have kept them some five years, and have found them equal to my expectations; being more hardy than the black—less die in winter—they gather one-third more honey, breed one-third more bees—working when so cold that black ones right alongside would scarcely stir, and actually storing honey while the black were consuming their stores to live. This I have seen by actual inspection of the interior of the hives from day to day, each stock having equal chances, standing side by side—the Italian bees proving so much superior to the black, that I do not now keep the black ones at all.

New Britain, Ct. JOEL CURTIS.

P. S.—I am told that the Italian bees are kept in log-hives in their native clime.

AGRICULTURE OF MASSACHUSETTS.

The Twelfth Annual Report of the Secretary of the Massachusetts Board of Agriculture, C. L. FLINT, for 1864, is at hand with its customary promptness. It forms altogether a volume of nearly 500 pages, and is another valuable contribution to our rural literature.

Mr. Flint alludes, as among the leading agricultural features of the year, to the extension of tobacco culture, to the development of sheep husbandry, and to the increased employment of farm machinery and use of concentrated manures, in the State, as well as to the unusually good attendance elicited at the Autumn Agricultural Shows. The report of the Commissioners on Contagious Diseases among Cattle, proves that traces of pleuro-pneumonia continue to exist, but apparently in such a way as need excite no alarm.

The proceedings of the Board during the public meeting at Greenfield in December last, are reported at length. These meetings have become an important part of the yearly programme of operations. Among the proceedings we remark with interest the growing zeal of Prof. Agassiz in the sphere of agricultural inquiry; his views on breeding, and on the formation of soils, are expressed quite fully, and with much clearness and force. The remarks of Gov. Andrew, Mr. Flint and others, explain the present condition of the Massachusetts Agricultural College, about the constitution and location of which there have evidently been great differences of opinion, although all seem now disposed to help on as they can the plan finally settled upon at Amherst. The discussion on Sheep Husbandry was interesting. One speaker from Western Massachusetts, in advocating fine wooled sheep for the cheaper and more hilly lands of that part of the State, had come to the conclusion after long experience that the Spanish Merino was the most profitable branch of the family, as compared either with the Saxon, Silesian, or French. He had obtained the Spanish Merinos of Vermont for use in his flock, and urged upon his hearers that they ought to "keep fewer sheep, and keep them better," as the "great secret of the superiority of Vermont sheep." He said:

> "The sheep in our section are not so far behind the Vermont sheep, after all, as we are apt to think. I do not claim that they are as good, but the difference is more in the attention and care they receive than anything else."

He had purchased a ram from a flock which many consider the best in Vermont, six years ago, and for the purpose of experiment obtained a ewe at the same time:

> "I thought I would know the value of this sheep. I served her just as I did my other sheep. We live in a country where we cannot raise grain; it is grass, and hardly anything else but grass. We raise pretty good cattle and sheep, but we raise them on grass almost entirely. I put this sheep in with my flock and let her run. In the spring I sheared her with the rest, and she sheared the most of any, with the exception of one; but you see she had been kept in Vermont till the middle of November. Well, she went out to my pasture the same as my other sheep, and the next year *she did not shear quite up to the average of the flock.* I kept her two or three years, and did not consider her an average sheep. She certainly was not an average in the quality of her wool; and I have generally found that our sheep in Western Massachusetts yield a better quality of wool, nicer, softer wool than they get in Vermont. There are exceptions to that, but that is the general rule."

Other interesting discussions were held and papers read, during the continuance of the same meeting, to which we have not space to refer. The transactions at the Annual Meeting at Boston follow, including reports—on Garden Vegetables and Root Crops, by T. G. Huntington; on the Cultivation of the Pitch Pine on the Sea Coast, by S. B. Phinney from the committee on the management of forest trees; on Farm Buildings, by C. O. Perkins; on Fruit Culture, by John B. Moore. The appendix to the first part of the volume contains reports from the local Agricultural exhibitions by members of the Board appointed to attend them as delegates—also the financial statement required by law from the several societies. This statement shows that the 24 county and district societies recognized by the State, received during the year—

From the commonwealth,	$14,320.00
Income of funds,	5,745.09
New members and donations,	4,015.93
All other sources,	23,827.46
Total,	$47,907.48

They offered nearly $25,000 in premiums, but actually disbursed only about $14,000 in this way. They possessed real estate to the amount, in round numbers, of $194,500, and personal property to the amount of $38,400, which, after deducting $45,000 indebtedness, would leave the net property in their possession not far short of $188,000.

The second part of the volume contains abstracts from the Proceedings of County Societies, including addresses, farm statements, reports, &c., from various parts of the State.

BEAN SOUP.

Wash the beans; then put one quart common white beans, or one quart of turtle soup beans, into a bowl and cover with water—soak over night. The next morning put four quarts of water into a pot, turn in the beans, with three or four onions, a couple of carrots, and a tablespoonful celery seed tied in a muslin bag. If black beans are used, stick three cloves in each onion; put it on to boil slowly for four hours. Then pour the soup on a sieve, and *rub* all thoroughly through it. Put on the soup again, that it may heat and boil down if *too* thin; or if too thick, add *hot* water. Season with pepper and salt. Have some slices of bread toasted, *cut* in small pieces and put in the tureen, and turn on the hot soup. If the Black beans are used, *small bits* of sliced lemon are a great improvement.

A richer soup may be made by boiling a shin of beef the day before, and taking off *all* the fat after straining and cooling; or any bones suitable for soup can be used. This receipt will make three quarts of superior soup.

Boston, Mass. AN OLD HOUSEKEEPER.

NOODLE SOUP.

Take two pounds beef—put on water enough to cook tender—break two eggs into three teacups flour, then mix to a hard dough—then roll as thin as can be rolled—then dust over some flour, and roll into a nice even roll—then take a sharp knife and shave from the even end of the roll thin shavings until the whole is shaved. Shake these dough shavings, or so-called Noodles, all nicely up, and dust more flour, and when the soup is done put in the Noodles, and let it boil five minutes—then serve it. A. DECKER.

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SQUASH BUGS, &C.—Walter Butler writes the Genesee Farmer that he has tried many different articles to keep bugs from vines, but never found anything equal to sulphur put on with a dredging box after every shower.

THE HYDRAULIC RAM.

Eds. Co. Gent.—Within the past two or three years I have noticed several inquiries about the working of the above named apparatus for forcing water from a lower to a higher point. Having procured and put one in operation last November, I have thought a short account of its *doings* might interest some of the readers of the Co. Gent.

My buildings are so situated that I could not, without too much expense, bring water to them by an aqueduct. For a number of years past I have used a chain pump in taking the water from a well to supply my cattle, &c., during the winter. This required a great deal of time, and what water was left in the trough over night would freeze, and always the water was nearly at the freezing point.

About twelve rods west of my barn there is a brook, which affords a good supply of water most of the year. Across the brook I erected a dam some 20 feet long, and 3 feet high. About 30 feet below the dam I placed the ram, leading the water from the pond through logs of 1½ inch bore; and from the ram to the barn used logs of 1 inch bore—connecting the logs to the ram by about 3 feet of 1½ inch lead pipe, and used lead pipe of ½ inch bore from the ram to the inch bored logs. Let on the water, and from that till this time there has been a nearly continuous flow of water, filling a half inch pipe of waste water from the trough. Once it ceased running for a short time, in consequence of the strainer at the head of the force pipe getting clogged by the sawdust from a shingle mill a third of a mile above the dam, and two or three times it has ceased to operate for a few hours, in consequence of back water. Otherwise the ram has kept butting away with the regularity of clock-work.

The water of the pond overflowed about one-third of an acre of grass land. A few days since the water was drawn off, and the flowage is so regulated that there is but six inches head of water at the upper end of the feeding log or pipe. I do not think there is over 18 inches of head and fall, yet the machine keeps in constant operation, making about half as many pulsations in a given time as it did with a two and a half feet head of water. But slow as it moves, I think it would afford a full supply of water for 50 head of cattle. I should be very loth to be deprived of this great water convenience, even for three times its cost.

The logs used were of pine, fir and poplar. Lead pipe was so dear last fall that I thought it would be better to use wooden ones, and when they fail, lead pipe can easily be thrust up the bore of the wooden logs.

I have seen hundreds of locations where these rams could be conveniently used in bringing water to the farm buildings, at no great outlay of money, yet the owners neglected to procure them, and drove their cattle, sheep, &c., a long distance to drink, through all the cold stormy days of winter, the owner and his stock thereby greatly suffering from neglect of having water in his barn-yard. L. Bartlett.

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Importation.—Mr. James Hewitson, Arran, C. W., has just returned from England with eight ewe and three ram lambs, pure bred Leicesters of the best blood, purchased from John Hannam, Kirk Deighton, Yorkshire. The ewe lambs were awarded the first prize at the last Yorkshire Show. So says a correspondent of the Canada Farmer.

DRILLING SPRING CROPS.

Editors Cultivator—Every rule has its exceptions. This year the great amount of rain which has fallen in Ohio, renders it a necessity here to drill in spring crops. The earth in fresh plowed fields has become so thoroughly run together by the rain, and baked, that in many instances it will not do to sow broadcast, because the harrow will not cover the seed sufficiently; hence the necessity of using the drill. But indeed a crop sown in this way cannot be regarded as sown under favorable circumstances.

Last year I wrote an article for The Cultivator on the "Wheat Crop in Southern Ohio," published in the June No., p. 187, in which I endeavored to demonstrate to my fellow farmers the manifest advantages which the drill possesses over all other methods of sowing fall crops. While therefore I still earnestly advocate the use of the drill in fall grain for the reasons mentioned in the aforesaid letter, I also, (as far as my theory goes, and so far as I can sustain it by observation based upon practical experience,) oppose the drilling of barley, oats, and other crops, as the *general rule* for spring seeding.

Broadcast sowing has these advantages

1st. By this system the grain is more equally divided and distributed over the surface than by drilling. This is certainly better. Of two fields, one sown broadcast last year, the other drilled this year, the broadcast sowing presented by far the best appearance up to corresponding dates. Time of sowing, quality of the soil, and other circumstances being about equal. The only drawback in favor of the broadcast sowing being the excessive wet, which can hardly be regarded as a drawback to the drilled barley, because the wet does not appear to injure it.

2d. The deep covering may be raised as an objection. Where the ground is mellow, and not hard or baked, the harrow will cover sufficiently deep.

3d. A skillful hand will sow faster and save the wear, tear and expense of a drill.

4th. As the chief virtue attributed to the drill in fall seeding is protection from frost in winter to the grain thus sown, this is not to be feared in spring.

The chief fault therefore of the drill is that while it lumps a large number of seed in a small space, it leaves large spaces bare.

To sum up and conclude, I respectfully submit the inference that there is little or nothing gained, but absolute loss incurred, by drilling spring grain.

Harricon, Ohio. HARRY B.

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SEED POTATOES.

Your correspondent S. W. Hall, in Co. Gent. of April 20, 1865, advances some ideas upon this subject which my experience has proved to be correct. It has always been my practice to select fair, medium, or large sized potatoes for seed. These (except in some cases for experiment) I have invariably *cut fine*, leaving not more than *two* eyes on a piece. When planting in drills, about 3½ feet apart, I dropped single pieces about 1 foot apart; when in hills 3 to 3½ feet apart, not more than two pieces in a hill. Seven years ago I took pains in cutting my seed ot keep the eyes from the *seed end* of the potatoes, separate from the *butts*, and planted them in separate rows, although side by side. The varieties were Carters, Junes and Prince Alberts. The result was that the eyes from the *seed end* came up first, the plants were more fresh and vigorous, and for more than one half of the season there was a marked difference in their growth and appearance. I did not perfect my experiment as I should have done, by measuring the product of each; but I was satisfied in my own mind that the setts from the *seed end* of the potato produced the largest crop. To a man cultivating a large area in potatoes, and using machinery for cutting and planting, it may not pay to use only seed ends; but to a large majority of farmers it *would pay*—reserving the butts for cooking or feeding. *One fact* at least is well established, *over-seeding is sure to produce small potatoes.* In cutting the seed it will not do to be governed by the *size of the piece*, but by the *number of the eyes upon it.* That is the reason why *no machine* will ever be made to do the work, which requires considerable judgment and intelligence. P. P. B. *Batavia.*

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CONCRETE BUILDINGS.

I find that cobblestone packed in lime mortar between boards laid on the wall raised as fast as it sets, makes a cheap and substantial building. It is rough coated on the outside, blocked off and colored in imitation of stone.

No finish can excel this in beauty or durability. In the country such finish blends harmoniously with the landscape, is pleasing to the cultivated eye and winning to the senses.

I built an ash and smoke-house 8 feet square by 7 feet high, cemented at bottom, and beautifully finished, for $12. It answers every purpose of such a building. I built a boiler and hog-house, 18 feet square by 12 feet high, well finished on outside, at an expense of $50. I can keep corn in it clear of rats. I built a drying house for a keg manufacturing company, 18 by 22 feet, by 10 feet high, at a cost of $100. It has sustained a great heat, enough to fire a wooden building, and answers every purpose. Apples could be dried in such a house to good profit. The stones were gathered from the adjacent grounds, and were of all sizes to fit in a 10 and 20 inch wall. Farm hands can work on such walls, having a master mason to direct the laborer.

Where stone are plenty, buildings of this material can be reared for one half the cost of wood. For dwelling houses strips of boards are laid up in the wall for lathing, to give an air chamber to avoid any dampness. A. L. L. *North Granby, Ct.*

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Baked Meat and Beans.

One pound of fat pork to each quart of beans. Soak the pork over night in cold water. In the morning, after the beans have been well picked over, they should be placed in a kettle of cold water and set on the stove, rubbing them with both hands occasionally. Let them remain until the water comes to a boil, then drain off, and again add cold water; this time let the beans boil a minute or so. Then drain and renew the process by adding cold water, about a gallon to each quart of beans. If the water should boil out, replenish with cold water. When the beans are soft and the broth is nearly boiled out, place the beans in a bake-pan, with the meat on top after it has been gashed. Bake in a slow oven one hour. Take the pork on a plate by itself. Mash the beans with a spoon and potato-jammer, until there is not a whole one left. They should be placed on a plate, smoothed nicely over. On the top spread a bit of butter, and sprinkle with pepper to suit the taste. You can ornament them by placing over the top boiled blood beets, chopped fine.

Steamed Wheat Flour Pudding.

One pint of sour milk, one egg, a teaspoonful of soda, a little salt, and flour sufficient to make a batter. Steam one hour over a brisk fire, and longer if the water does not boil fast.

Steamed Indian Meal Pudding.

Use the same wetting as for wheat flour pudding. Thicken with meal, and steam three hours.

Serve with sweetened cream for both of the above puddings.

Corn-Starch Pudding.

One quart of sweet milk brought to a boil, add a little salt, two eggs well beaten, three heaping tablespoonfuls of corn-starch, with the addition of a little sweet milk. Stir well. It will cook in four or five minutes. Serve with sweetened cream.

Wheat-Bread Pancakes.

Place dry bits of bread in a tin-pan with sweet milk; place it on the stove and let soak until very soft; strain through a colander, add a little sour milk, salt and soda; thicken with flour sufficient to bake on a griddle. Bring them to the table while hot, and serve with butter and sugar or molasses. It is a very economical way of saving the dry pieces of bread. Mrs. E. A. Call. *Fabius, Onondaga Co., N. Y.*—(*See advertisement.*)

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Scale of Prices for Factory Cheese Makin

A number of plans have been suggested to get at some scale of prices for manufacturing cheese at factories that would be satisfactory to both patrons and manufacturers. The scale adopted at the Herkimer County Union Factory, appears to have considerable merit. We do not remember to have heard of any other factory making rates on the same basis, and therefore give it for the consideration of those interested in this matter, at various factories.

The price received for manufacturing depends not only upon the sales, but the number of cows from which the milk is delivered, thus making it an object with the manufacturer to produce cheese that will sell high in the market, and for farmers to deliver milk from a large number of cows in order to reduce the rate of manufacture.

The price starts at 10 per cent. on sales for 400 cows, and falls ½ per cent. for every additional 100 cows, as follows:

400	cows	10	per cent.	on sales.
500	do.	9½	do.	do.
600	do.	9	do.	do.
700	do.	8½	do.	do.

At this rate 1,000 cows would reduce the price of manufacturing to 7 per cent. on sales, and if cheese sold at 15 cents, would be $1.05 per hundred. At 400 cows the sales being 15 cents per pound, $1.50 per hundred would be the price for manufacturing. But in this case, allowing the cows to produce on an average 400 pounds of cheese each, the gross receipts for manufacturing would amount to $1,600, while the 1,000 cows at 7 per cent., to $2,800. If cheese should drop to 10 cents per pound on the above plan, the price for manufacturing for the 400 cows would be $1 per hundred, while for the 1,000 cows the price would only reach 70 cents. In view of the unstable condition of the cheese market, the above scale of prices seems to be about the fair thing.—*Utica Weekly Herald.*

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Picket—a chap who is sent out to borrow tobacco of the enemy for the officers.

LARGE vs. SMALL FARMS.

The questions, "Ought farmers to labor?" "How to make farming profitable?" "Ten acres Enough?" "What is requisite to make farming desirable?" and kindred subjects, have been very thoroughly discussed during the past year in the agricultural papers. There have been numerous editorials regreting that no greater number of gentlemen of wealth and culture make agriculture a vocation. We propose to answer this last proposition. There is much valuable advice proffered in regard to the cultivation of industrious habits, of economy, contentment, &c., and especially as to the thorough cultivation of the soil, with numerous arguments to induce those who have two or three hundred acres to sell one-half or more, and improve the remainder. And one would judge, from the tone of the press, that although farming is conducive to health, longevity, and morals—to the prosperity and perpetuity of Republican and Democratic institutions—it is not a field to gain wealth or distinction. This, we think, is a mistaken idea, and is the reason why no adequate capital, energy, machinery, &c., are employed in cultivating the earth.

We are living in what has been truly termed "a fast age." Men of ambition and intelligence will not invest capital in any business which does not promise large returns. Men build ships and railroads; purchase pork and gold; erect extensive foundries and manufactories; establish banks and mercantile firms, requiring large capital, and give strict attention to business—principally with the expectation of realizing large fortunes. The love of gain, of gold, and of affluence, is the incentive that produces the fastest steamers, the best machinery, and the most improved telegraphs, &c., &c.

Men are taught that the farming life is one of unrequited toil and drudgery, with no opportunity of amassing wealth, which is the ruling passion of the American people.

It is not our purpose to discuss the morality or even the political economy of the question of large vs. small farms. It possibly might be demonstrated that if gentlemen would remove to the country, settle upon small farms, go to bed at seven o'clock, work with their own hands, control their ambition and the lust or love of wealth, they would be the better citizens—that small estates are better for the State, &c.

This may be true—and we shall not attempt to dispute it, although it probably could be met with arguments equally convincing to some minds, that the love of money impels energetic, ambitious men to make great improvements, and that, after all, they are the most useful citizens. But true or false, we are obliged to take men as they are. The fact is, this is a grand progressive age, and really smart, active, intelligent men only will attempt to do "*big things;*" and farming, as it is now prosecuted, is a slow, tedious, laborious, and disagreeable occupation, and these gentlemen eschew it.

Our business in this very brief sketch is to demonstrate that agricultural pursuits are not necessarily the irksome and unprofitable occupation that most people imagine it is—that it really is one that offers the greatest inducements for the perfectly safe and profitable investment of capital—for eminent usefulness, and to give the widest scope for the full exercise of the brightest intellectual faculties, as well as for pleasure and elegant ease. But we propose to confine our argument to the *profit* of farming on a large scale; and shall attempt to prove that the investment of $300,000, either by a single individual or company, in the business of farming, would more certainly make *larger* dividends than *any other* ordinarily safe business.

Let us see how this can be accomplished. Suppose a gentleman or company purchase, say, 30 farms, adjoining—which may be done within 20 or 30 miles from New-York, at an average of $60 per acre—say, 2,400 acres of tillable land, and 600 of forest; or

Three thousand acres at $60 per acre,	$180,000
To build mansion and carriage house,	20,000
do. a church,	5,000
do. parsonage,	3,000
do. store,	3,000
do. school-house,	2,000
do. grist-mill and saw-mill,	5,000
do. barn and out-buildings,	6,000
do. hen-houses and fish pond,	5,000
do. green-houses, graperies, &c.,	10,000
Ten cottages. $1,000 each,	10,000
One thousand sheep, $5 each,	5,000
Four rams. $250 each,	1,000
One hundred cows, $50 each,	5,000
Twenty-five brood mares,	3,000
Two bulls and a stallion,	1,000
To purchase plants, trees, &c.,	5,000
Tinware for cans,	3,000
Glass for fruit,	3,000
For wagons, carriages, tools, &c.,	5,000
Cash in bank,	20,000
	$300,000

ANNUAL EXPENSE ACCOUNT.

Seven per cent. interest on capital,	$21,000
Family expenses,	5,000
Annual tax,	3,000
Minister's salary,	2,000
School-teacher,	800
Foreman on farm,	1,000
Gardener,	800
Nurseryman,	800
Clerk and book-keeper,	1,000
Two clerks in New-York,	2,000
For cartage and freight in New-York,	1,000
Blacksmith,	800
Wheelwright,	800
Poultry and fish man,	800
Two tinsmiths,	1,200
Sixty workmen, at $300 per annum and rent,	18,000
For labor of women and children,	5,000
Manure and Seeds, &c.,	8,000
Rent of store in New-York,	2,000
Total expense,	$75,000

ANNUAL AMOUNT OF INCOME AFTER THE THIRD YEAR.

200 acres of peach orchard, $200 per acre,	$40,000
100 do. tobacco, $300 per acre,	30,000
100 do. sorghum, $200 per acre,	20,000
60 do. grapes, $500 per acre,	30,000
50 do. sweet corn, in cans,	10,000
50 do. tomatoes do.	10,000
30 do. strawberries, $300 per acre,	9,000
30 do. blackberries, $300 do.	9,000
50 do. cranberries, $500 do.	25,000
20 do. celery, $300 per acre,	6.000
100 do. white beans,	10.000
20,000 lbs. of grapes raised under glass, 50 cts. per lb.,	10,000
10 acres of asparagus, $300 per acre,	3,000
10 do. cucumbers, pickled in glass jars,	5,000
6,000 pounds of wool,	5,000
600 lambs,	3,000
100 head of fat cattle,	10,000
25 young horses,	5,000
For pork,	3,000
Fish and poultry,	7,000
Total income,	$250,000
Expense account,	75,000
Net annual income,	$175,000

It will be observed we make no note of the grain, hay, potatoes, turnips, beets, &c., raised on the place, as they would be consumed on the farm, and reduce the amount of the item paid for labor about two-thirds, or pay for additional labor.

THE NINTH YEAR.

At the expiration of the ninth year, 400 acres of apple orchard come into bearing, and produce on an average $100 per acre, $40,000: 50 acres of choice pears, $200 per acre, $10,000. There are also large quantities of quinces, plums and cherries for market and canning. There have been 100 acres of vineyard added to the place, which produce $100,000 of wine per annum. The tobacco is manufactured into segars, and the income from this source is trebled.

The sheep also have been increased to 2,000, and the cattle to 200, and are now all of the finest breeds, and the sales of fancy stock at fancy prices afford a very large income.

The thirty farm houses have been altered to accommodate two families each. They have been furnished with slate roofs and piazzas, and nicely painted, presenting a fine appearance. The old barns also have new slate roofs, and have been painted and repaired, and very greatly improved in appearance and usefulness. The forest, of which there is about 600 acres, has been cleared of all the old, as well as of the crooked and worthless trees, the bushes cut, and the whole seeded in grass of different kinds, affording excellent pasture and shade for animals in hot weather. 100 acres have been put into a deer park, which contains hundreds of deer and tens of thousands of English rabbits and pheasants, which prove both a pleasure and profit.

200 acres of the oak and chestnut woodland are inclosed with a high wall, and in this pig-yard are several thousand hogs and pigs of the Prince Albert breed, which thrive and multiply amazingly.

There has been an elegant signal tower and observatory erected, and the roads and bridges on the place and in the vicinity have been put in excellent condition; the old church has been converted into a library and concert room, and a new and beautiful stone church adorns the village. The old fences have all been removed, the fields enlarged, and surrounded with painted picket fence, and elegant gate-ways give the landscape an entirely new and very beautiful appearance. Indeed, the plantation and the vicinity presents an entirely new aspect. The very heavens look new, especially in the month of June, when the millions and thousands of millions of flowers that burden the fruit trees seem to reflect their beauty on the sky, and alter the atmosphere to one fit for Paradise. It seems, indeed, like A NEW HEAVEN AND NEW EARTH.

This plantation is now worth at least $500 per acre, or $1,500,000.

Where is the bank, mercantile establishment, oil-well, or gold mine that can produce so favorable an exhibit?

The above is respectfully dedicated to "OLD HURRICANE." PROGRESSIVE FARMER.

New-York, Feb. 7, 1865.

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CORN FODDER.

I have recently received from H. L. of Huntington, Suffolk Co., a number of inquiries as to corn fodder, prompted by the article in COUNTRY GENTLEMAN of March 9th. As others may be equally interested in the subject, I conclude to answer through your columns instead of by private letter.

1. I make the drills with a one-horse plow on well plowed and harrowed ground, running to a depth of three or four inches. The corn, after sowing along these furrows, is covered with a two-horse harrow running lengthwise with the furrows—or a one-horse cultivator does about as well. The earliest sowing should be about the usual time of planting corn for cutting early in a green state; for the main crop it may be sowed just before the first hoeing time. For autumn soiling it may be nearly as late as midsummer. It will only succeed on sward ground by first mellowing the inverted sod thoroughly by means of a Shares' harrow—and even then does not succeed so well as on other ground, as there should be a good supply of moisture from below. The stalks being so numerous, carry off a vast amount of moisture from the earth, and rather moist, deeply plowed land is therefore best. The application of manure would of course increase the amount of crop, provided it is so thoroughly intermixed as not to augment the effects of drouth. For winter fodder, the crop should be cut just as soon as the edges of the leaves begin to become dry, when the juice is matured and there is the greatest amount of nutritive feed. If left later the stalks are hard and not so good.

I have used sorghum to some extent for fodder. would by no means sow this or common corn broadcast,—as it takes more seed, produces less, and does not leave the ground so clean. The sorghum yields nearly twice as much as common corn; and is eaten with great avidity in autumn by cattle, when freshly cut—indeed they are so fond of it that they will not freely eat any other food, for which reason they should have plenty of the sorghum. Late in autumn and early in winter, the stalks become too hard, and require cutting short. I have used Hickox's cutter, which grinds the chopped stuff after cutting, but it does not cut short enough,—being half an inch long instead of a fourth of an inch.

Both kinds of fodder are best if stooked or shocked in the field—taking great care to place it even and erect and in pretty good sized stooks. It will thus dry perfectly in all weathers, and come out bright and fresh in winter. If stacked even, after several weeks' drying, it is sure to heat and mold. J.

◆

A Regular Curve for Roads or Paths.

To lay out a regular curve for a road or path, I take a pole ten or twelve feet long, and put a stake each length of the pole, in about the direction required. I then take a strip of board three or four inches wide, and three or four feet long. At one end I drive a nail through the board and into the end of a stick an inch square, and a foot or more long, so that when the board is on the ground the stick stands erect like a stake. The distance from this stake to the end of the board, is divided off into equal spaces of about three inches. Commencing now at one end of the curve, I place three stakes in what seem the right positions, and putting my instrument at the third stake I bring the stake which is fixed upon it, in line with the first two stakes, and then note the number of spaces on the board to the third stake. I then move to the fourth stake, and bringing my instrumental stake in line with the second and third stakes, I take up the fourth stake and put it down at the same distance from the instrumental stake that I found the third stake to be from the line of the first two stakes. This operation is repeated at each stake until the road is marked out, or until I discover that I have taken a wrong curve, in which case I commence back again. When two persons work together, it will be easier and quicker to measure distances and set the curve at the same time.

If this suggestion be worth publication it is at your service. Those who have many curved roads or paths to lay out, will appreciate it. M. S. B.

Poughkeepsie, April 12, 1865.

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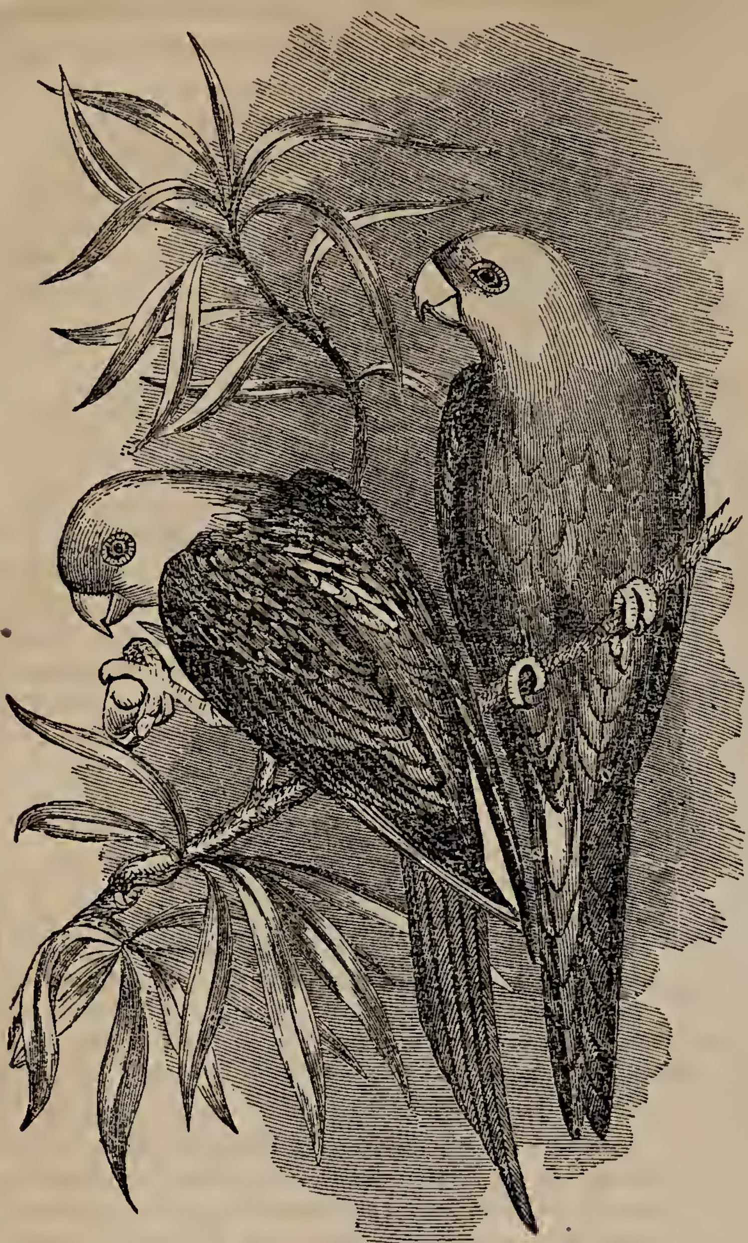
The Connecticut Valley.—The Greenfield, Mass., Gazette says that in that part of the Connecticut Valley there will not be as much tobacco raised as last season. A large amount of old tobacco is still in the hands of the growers. Those who sold in Jan. and Feb. were fortunate. In Sunderland the farmers, many of them, will raise onions instead of tobacco—in other towns, broom and Indian corn. Help is still high, good hands commanding from $30 to $35 a month and board.



Carolina Parrot or Parakeet---*Conurus carolinensis.* KUHL.

Of the many hundred species of parrots known to exist, this is the only one which is an inhabitant of the United States. It is essentially a southern bird, rarely visiting any place farther north than Virginia on the east, although it ventures much higher in the west, being seen on the banks of the Illinois, and occasionally on the southern shores of Lake Michigan. It has been known to visit Pennsylvania, and on one extraordinary occasion, Albany, New-York.

Our engraving gives a very good representation of these birds, and if you will examine it you will perceieve that one of the parrots is just about to eat one of its favorite morsels—a cockle burr—although unfortunately the artist has not placed them upon a bush of the kind of which it is supposed to be eating the burr. Its food consists of every kind of fruit, as well as grain and the cockle burr before referred to. They are very destructive birds in their eating, and will frequently assail the pear and apple trees when the fruit is much too small for eating, just for the sake of the seeds. A pear tree may be loaded down with green fruit, and the owner congratulating himself upon the prospect of a nice crop, when lo! he wakes up in the morning to find the tree stripped of all its fruit by a flock of these birds. This is not the only mischief that they do the farmer, for a flock will frequently alight upon a stack of grain, and what with their pulling the grain from the stack and eating it, they destroy an immense quantity. The farmers do not take all these injuries without retaliation, for they take every opportunity to shoot them. If one bird be wounded and cry for assistance, the whole flock will return and hover over him, when any number of them can be killed. They appear to have such an affection for each other, that they will again and again return to their wounded comrades, although their ranks be thinned at every discharge.

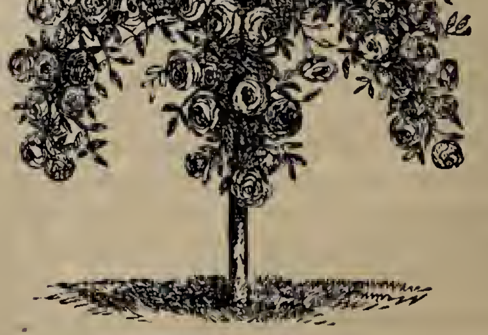
They are able to climb very easily; owing to the formation of their feet and bill. On the ground they walk very awkwardly, and seem to be incommoded by their long tail.

According to AUDUBON their nest is in the bottom of hollow decayed trees, and here upon some mouldering wood they deposit their eggs. AUDUBON is of the opinion that the number that each female lays is two, but owing to the circumstance of so many females depositing their eggs together in the same hollow stump, he was not able to prove this assertion. He farther states that the eggs are " nearly round, and of a light greenish-white." Two years are necessary for the young Carolina Parrot to acquire its full plumage.

At night they roost in hollow trees and holes excavated by the larger species of wood-peckers clinging on to the sides by means of their claws and bill.

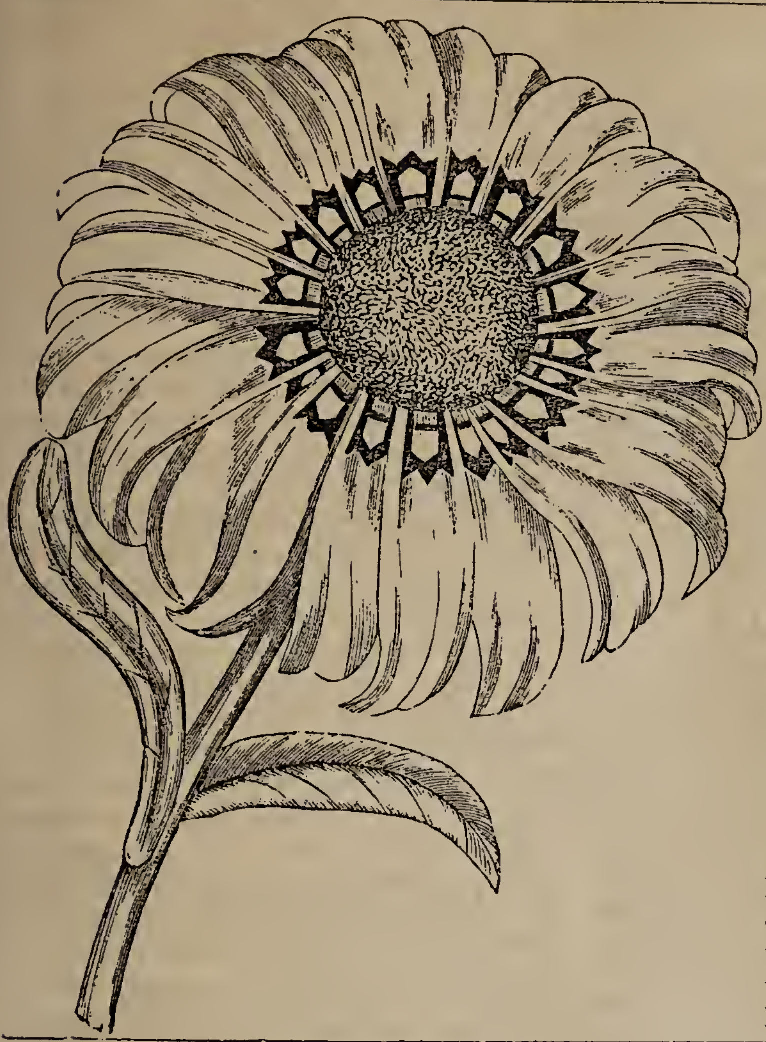
Their flight is straight and rapid, and not unlike that of the common Passenger or Wild Pigeon, (*Ectophistes migratoria*, Sw.) They utter loud cries when flying, which somewhat resemble those of the Red-headed Woodpecker, (*Melanerpes erythrocephalus*, Sw.

J. P. NORRIS.



WEEPING ROSES.

Weeping roses are produced by budding the longer and freer growing sorts standard height, and afterwards bending them downwards, and giving them a uniformly drooping form by means of a hoop. It is especially important to keep weeping roses well and uniformly pruned. The Prairie roses may be made into handsome weeping bushes.



SPLENDID GAZANIA.

Gazania Splendens is one of the most showy and beautiful bedding plants lately brought to the notice of the lovers of flowers. The engraving, though as fair a representation of the flower, in size and appearance, as a wood cut can well be—nothing but a colored plate can do it justice. The plant is compact, close branching, and decumbent in habit. The stems which are green with a reddish tint, bear smooth, glossy, oblong-spathulate leaves, furnished here and there with small single or twin side lobes; these leaves are dark green above and silvery white beneath. The blossom heads, which are from 3 to 4 inches in diameter, resembling rich golden orange chrysanthemums with gracefully divided margins, are picturesquely marked at the base of each floret with a broad spot of rich brown chocolate tint upon a black base, and close beside this is a distinct white spot on the same dark ground. The fine effect of these singular markings may be imaged.—*Tucker's Annual Register.*

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Pomological Convention—The Montreal Horticultural Society, proposes holding a Pomological Convention during the exhibition week of the Lower Canada Agricultural Board. They propose inviting all the Horticultural Societies throughout the Province to unite in making an Exhibition of Fruit.

SHELTERING LANDS.

This subject is evidently *beginning* to receive the attention it merits. We hope it will receive a fresh impulse the present season, not from any personal consideration, for we have none to gratify, but for the economy and comfort of those who wish to make bleak and uninviting places more genial,—more inviting.

The season has now reached us, when, with proper care, the planting out of screens of evergreens may safely be commenced. With care on the part of those who put out such screens, it will be a safe operation to perform from now to June. In careless, hurrying hands it is never safe, and cannot be promised in hope of success. Though it may succeed if done in a slovenly manner, the good result comes rather by accident than as a reward for labor.

When evergreens are to be set for a hedge, the ground should have a previous preparation by plowing and thoroughly mellowing. This may be effected by plowing a strip where the hedge is to stand, and raising a crop of potatoes. A fresh and deep plowing should be given in the spring, before transplanting. By opening the dead furrow through, where the row is to stand, much labor of digging will be saved.

In regions of the hemlock, there is no difficulty in obtaining good plants. We have seen them in patches, "thick as hops," in old pastures and in moist places by the wayside, and taken from such old exhausted soils, they soon acquire health and vigor in the fresh grounds prepared to receive them. The risks of such plants are much fewer than in those taken from nursery rows, where labor and care have given them thriftiness. In these old grounds, where the soil is thin and almost barren, with a very little care they can be taken without scarcely breaking a fibre, retaining all the soil, if it is soil in which their matted roots are interlaced. This is a great help to their future growth. In many instances, by running a stiff shovel under them the whole may be lifted.

Small plants are decidedly best for removing, from the fact that you secure more roots, and in early growth they bear the transfer much better.

It is a mistaken theory that supposes any permanent gain is to be realized in removing large evergreens. Let one row be planted with plants from three to six inches high, and another with those of from two to three feet, and in five years any person will choose the row of those planted small. They will by that time show more size. richer foliage, and more dense growth than the larger plants.

Although in the above remarks much has been repeated that has already been before the public, we think now at this season of the year, no apology is necessary. Truth does not suffer from repetition, and as this may prove a *timely* article to many, we do not hesitate to offer it. William Bacon.

Richmond, Mass.

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Cracked Teats in Cows.—It is said that bathing the bag and teats in the suds from Castile soap, and then thoroughly anointing the affected parts with glycerine twice per day, will cure the most stubborn cases in two or three days.

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Cure for Bloody Milk.—Take poke weed root, the size of a small hen's egg, grate or chop fine, then mix with oats, and give the cow a mess once a day for two days.

THE TURNIP AND ITS CULTIVATION.

BY J. C. SNELL, EDMONTON, C. W.

I am going to give you my experience in turnip culture during the last ten years, on my father's farm. I shall not attempt to give positive proof that it is a profitable or paying crop, but I cannot understand how any one that keeps good stock, and pays attention to pushing forward young animals, can well do without them. It is true that if all the labor that must be expended in its cultivation be taken into account, it is one of the most expensive crops we raise, if not the *most expensive*, but it leaves the land in first rate condition for growing future crops of any kind. For it must be well manured to produce a good crop of turnips, and it must be so well cultivated that all grasses and weeds are effectually killed. We can do more injury to Canada thistles by cultivating turnips than by any other course. We get a larger amount of good, succulent feed for stock from the same quantity of land than we can of any other crop. We make an immense pile of excellent manure to keep up the farm, and our stock is healthier and better for a liberal supply of roots. Besides all this there is more real pleasure in working among and watching the growth and progress of a field of turnips than can be derived from any other crop; it is really fascinating, and we consider it by no means an uncertain crop; in ten years we have never failed to get an average crop. This year, 1864, in spite of the most severe drouth that the "oldest inhabitant" has ever experienced, we have cultivated twenty-six acres, and never had a better crop. I am quite certain that they will average 900 bushels per acre. This is considered a good crop, but as high as 1,200 bushels have been grown in Canada. In this, as in the cultivation of any crop, a great deal has to be learned by observation and experience —sometimes dear bought experience.

A good crop of turnips may be obtained without the use of artificial or expensive manures, by using only good barnyard manure; by this I do not mean the kind of manure generally used by our farmers, such as rotten straw and the droppings of animals that have been fed on straw, but manure made from animals that have been well fed. I think the best time to apply the manure is in the fall, spread and plowed under. In this way it keeps the soil open and loose during the winter, and becomes thoroughly mixed with it. But if it is not convenient to apply it in the fall, manure that has been composted during the winter, and is well rotted, can be applied in the same way in the spring. But perhaps a better way to get immediate benefit from the manure is to open out drills and spread the manure in the drills; then close them and sow upon the top. This mode requires more labor, but will perhaps pay for it in the crop, as the manure is directly under the plants, and must have a good effect. If the land has been plowed in the fall, as it certainly should be, it need not be moved again till most of the spring work is through, about the last of May, when it should be plowed, harrowed and rolled, then let lie for a week or two, so that any seeds of noxious weeds that may be present will have time to sprout; the land should then be thoroughly worked with the plow, harrow, cultivator and roller, till it is fine and loose; a fine seed bed is of the greatest importance. If the land is of a character that will bake, it should never be worked while wet.

The best way to prepare the land for sowing is to mark it out in drills from 26 to 30 inches apart. I think the latter distance preferable, and for this purpose a double mould-board plow is a great advantage. A roller should be passed over the drills, lengthwise before sowing; this flattens the drills and makes them more solid, to prevent the seed being deposited too deep. You may get quite as good a crop by sowing and cultivating on the level, but they are much easier to work in raised drills, and the horse-hoe can be used sooner without injury to the plants. The drill we have used for sowing is one of the kind used in Yorkshire, England, a cumberous machine, drawn by two horses, (sows three drills at a time,) and has an arrangement for sowing dry manure with the seed, which can be used or not at pleasure. We have sowed a mixture of coal dust, ashes, bone-dust and dry swamp muck with very satisfactory results. It is certainly a good principle to sow manure with the seed, but it is rather troublesome. We have never tried superphosphate, but have no doubt it is a good thing.

For covering the seed I think a brush is the best thing; it may be made of green branches or boughs drawn through a light frame of poles; a roller packs the ground, and when a shower of rain comes it is apt to form a crust on the surface, which prevents the plants from coming up. I think it better to sow after a shower if possible, while the ground is damp and the crust does not form on the surface as it would if they were sown before a shower, besides the ground is better for being a little solid, as the seed does not need to be so deep. The best time to sow is about the 20th of June; any time between the 15th and 25th will do very well, but if the weather, or other things, are unfavorable to sowing at that time, I would not be in a hurry. I have seen a good crop of turnips that were sown on the 12th of July. We usually sow about 2 pounds of seed per acre; some persons sow 2½ or 3 pounds. Of course a much less quantity would be sufficient if it all grew. but it may not all germinate, or the fly mav come in for a share, and it is well to have enough, as the additional expense is only trifling, besides you have a better choice of plants in the operation of hoeing and thinning.

As soon as the plants are large enough, they must be thinned by striking the hoe across the drill, cutting out the width of the hoe, and leaving only one plant in a place. After a little practice it will never be necessary to use the hand in separating the plants, and a good hand can hoe three-quarters of an acre a day. The hoes should be from 7 to 9 inches wide and straight in the head, so as to be used in pushing from you as well as pulling towards you.

Persons unacquainted with turnip culture are very apt to fall into the error of leaving the plants too thick, but experience teaches us that under no circumstances should they be less than 9 inches apart, and I think that 12 inches is decidedly preferable. It will be seen in harvesting that where they are thin they are much larger, and there is less expense in harvesting large turnips than small ones. In the operation of thinning there is room for the exercise of some good judgment; care should be taken to select the largest and healthiest looking plants, and in order to do this it is better to cut out several small ones even if it makes a much wider blank than usual. The soil should be well moved around every plant so that it will fall over; they will bear a good deal of rough usage, and be better for it. The crop will pay for being twice hand-hoed. The horse-hoe should be freely used from the time the plants are large enough for hoeing till they are too large to admit of its passing between the drills. I am so well satisfied of the benefit of horse-hoeing that I believe it would pay to run that implement through them once a week.

The quickest and easiest mode of harvesting that I know of is to cut the tops off with hoes; the hoes should be ground pretty sharp; then plow them out, taking the mould-board off an iron plow for the purpose; the plowshare cuts off most of the roots, and pushes the turnips out of the ground.

For storing, nothing is better than a cellar. A cellar under a driving house or barn, with trap doors in the floor, is very convenient, and here we use an arrangement to prevent the earth from going into the cellar with the turnips. It is a sort of grate or riddle made of two pieces of scantling or plank ten feet long and two feet wide, with bars of iron put in crosswise about 2 inches apart, and two legs bolted on to one end to elevate it to a slanting position. The turnips are thrown on to this and roll into the cellar, while the earth falls through upon the floor. It is very important to keep the earth from going into the cellar, as it prevents the circulation of air among them, and causes them to heat and rot. Whenever the weather is mild all the doors and windows should be be left open, as there is more danger from heating than from freezing where they are stored in such large masses. If they should heat, it can be detected by the smell, and in that case they must be picked over, and the injured ones removed. If the floors of cellars and root houses could be constructed of scantling or narrow planks placed a couple of inches apart, so that a current of air could pass under and up through them, it would be a great improvement.

Where sufficient room in cellars cannot be provided, they may be kept tolerably safe in pits. Dig a trench 4 feet wide, and 8 or 10 inches deep: fill in and shape up to a point; cover with straw 8 inches deep, and then about seven inches of earth, leaving the top open 6 inches wide, and cover with wide boards, to throw off the rain. They should be taken out of the pits early in spring, and put in the barn.

For young animals turnips must be sliced, but cattle and sheep from two years old upwards will eat them very well without being cut, and are not any more liable to get choked. Young sheep, or sheep that are being fattened, may with safety be fed all the turnips they can eat, but it is not good to give a very large supply to breeding ewes. Cows will eat a bushel and a half a day, but a man must have plenty to feed at that rate. Hogs will winter very well on turnips.

The above remarks apply only to *Swedish* turnips.

* * *

Potatoes.—It is said that West Pawlet, Vt., probably sends off more potatoes in a year than any railroad station in the country, the amount some years reaching 160,000 bushels. They are sent in lined freight cars heated by stoves. The yield last year was from 200 to 400 bushels of marketable potatoes per acre, and the average price has been 70 cents.

THE WIREWORM.

Eds. of Co. Gent.—In your issue of Jan. 12, J. P. of Chautauque Co., N. Y., makes inquiry respecting "the natural history of the wireworm, that worst of all plagues on our clayey lands."

For several years past some of our farmers have had their growing corn, and some other of their crops, badly injured by the ravages of the wireworm. From the complaints of many persons, I am inclined to think this "pest of the farm" is largely on the increase in this section. And I cannot learn as any one has discovered the means of destroying it, or of lessening its ravages either in their corn or grain fields.

For the benefit of J. P., and perhaps other readers of the Co. Gent., I will copy from a recently published paper on the wireworm, by Townend Glover, Esq., the able entomologist of the Department of Agriculture, Washington, D. C.

Mr. G. says, "The true wireworm is the larva of a species of elator, or click beetle, commonly known by the trivial name of snapping bug; from its habit of being able to throw itself some distance in the air with a sudden click when laid upon its back; it is said to pass five years in the larva or feeding state, and resembles the common meal-worm, the body being cylindrical, very tough, of a yellowish brown color, and furnished with a distinct head, and only six legs.

"Wireworms feed upon the roots of plants, and are thus very destructive to vegetation. Curtis states that "soot and lime," "chloride of lime waters," or "nitrate of soda, will destroy them." He likewise says that "spirits of tar and sand," or "refuse lime from the gas-works," will have the same effect, and that salt on light lands is highly efficacious."

"A writer in the American Agriculturist observes, however, that salt, two or three bushels per acre, will have no effect, and that two bushels per rod (320 bushels per acre,) did not stop their ravages. Another writer recommends corn cobs, with the idea that the worms will burrow in the cob, and leave the crop unmolested. This, however, is not very probable. Some farmers recommend fall plowing as destroying the grubs, by turning over the sod, and thus bringing the grubs to the surface, where they will be quickly found and killed by birds and small animals.

"Harris and some English authors, recommend "sliced potatoes or turnips to be strewed in rows in the field or garden, as a bait for the wireworm;" the pieces to be examined every morning, and the insects which burrow into them to be collected and destroyed." This, however, would be practicable only on a very small scale. A writer in the Scottish Farmer states that the late Mr. Pusey found rape cake had the effect of destroying numbers of the wireworms and when grass land is very much over-run with them, it is also said to be advisable to pare and burn the sod. Moles, crows, and other birds, eat immense numbers of these larva."

From the foregoing it seems the farmer has but small prospect of preventing the ravages and increase of the destructive wireworm, and I regret that I can not afford J. P. more "aid and comfort" in his trials with this "worst of all plagues on his clayey lands."

Warner, N. H. LEVI BARTLETT.

HIGHWAYS SHOULD BE ORNAMENTAL.

A great improvement would be made in the appearance of the whole country if our public highways were planted with ornamental trees, and kept in neat condition like landscape gardens. The laws of the State of New-York, passed in 1862, excluding domestic animals from public roads, renders this of comparatively easy attainment. They need not now be rooted up nor disfigured by swine, nor polluted by the droppings of cattle. Trees need not be injured or killed by animals rubbing against them. Roadsides should be rendered smooth in surface, both for the purpose of improving their appearance, and rendering them capable of being easily mowed with the scythe or mowing machine—the hay thus obtained will be more valuable than the pasturage, if cut but once or twice in a season. They must be cut oftener where it is desired to maintain a high polish, like that of a finished lawn. Were this treatment adopted generally in any considerable portion or district of country, it would not only render farms of a higher value in market, but would have a civilizing and refining influence on the community.

We are sorry to observe, in many places, that highways are regarded as receptacles for all kinds of rubbish and refuse matter. We recently had occasion to ride through one of the streets of a large village, reported as one of the neatest and most respectable in the State. In a distance of thirty rods in length we observed the following materials, which we copy from a memorandum made on the spot: Dirt from a cellar, coal ashes, straw from beds, rotten pieces of plank, a broken saw horse, a defunct wheelbarrow, rotten cabbage and cabbage stumps, trimmings of trees, rose prunings, hoop skirts, stones thrown out of an adjacent garden, barrel hoops, boots and shoes, and old tin pans bent in all shapes by passing wheels. A ride through the country, was scarcely less interesting. One farmer had piled along the roadside the trimmings of his apple orchard, amounting in all to several wagon loads, among which burdocks and nettles had grown up in profusion; another had made a long pile of cord wood the preceding winter, a part of which had fallen when the snow melted, and obstructed the track; another had carted out a load of old plaster and broken lath, and discharged in addition into the middle of the track a large pile of rotten potatoes; and a fourth, for the purpose of economizing land, had set his barn on the edge of the road, so as to make his barnyard in it, and had then variously filled it with fractured wagon wheels, dismantled carts, rusty plows, decayed rollers, superannuated harrows, piles of old boards, scattered cord wood, sleds with broken runners, empty barrels, uncarted manure, and some old boxes.

We passed to another neighborhood, where the people had from the first enforced the cattle law. The roads were smooth and neat, trees had been planted along their margin, the grass had been mowed for hay, a part of which had been drawn off, leaving the sides of the carriage way smooth and green, and in other places the hay yet remained in cocks. Although there was still room for considerable improvement, it was not difficult to decide which neighborhood would be chosen by any purchaser of a farm, or which would bring the highest price.

Villages, of all places in the world, should not be infested by animals running at large. We have recently made a careful estimate of the amount of pasturage in one of the villages of this State, with which we have been familiar. The aggregate length of its streets is about two miles. The only grass growing in them is a strip averaging about four feet wide on each side of the carriage track, and between the latter and the flagging—or eight feet in breadth for each street. The more active business streets have no grass. Eight feet wide and two miles long forms an area equal to two acres—not better than one acre of good pasturage. In order that a few vagrant cattle might gnaw this thin grass, the following inconveniences were submitted to before the cattle were excluded: The constant watching of at least one hundred garden and door-yard gates, at all hours of the day, and their careful security at night—the occasional loss of a fine patch of cabbages in some poor man's ground, who could not afford so strong a fence as his neighbors—the spattering of the flagging with cow droppings, greatly to the annoyance of every well dressed lady, and the terror of little children on their way to school at the sight of animals on the path. The compensation for all this annoyance is *one acre of pasturage*—equal to the keeping of a single cow. It will not be difficult to say on which side the balance lies.

The definition of a "*weed*" has been given as a plant growing in the wrong place. We want another word to apply to animals running where they should not, a much greater nuisance than weeds, as the latter may be removed quietly and without trouble, while the former must be watched, chased down and excluded at a heavy expense of time, strong fences and secure gates, costing a thousand per cent. more than the whole value of the animals.

LETTER FROM VIRGINIA.

Burkesville Junction, Va., May 16, 1865.

Messrs. Tucker & Son—Thinking that your readers might like to know how things are progressing in this part of the ex-confederacy, I take pleasure in giving the result of my observation and conversation with farmers of this locality, with whom I have held conversation in my rides on the various roads leading from this place. I do this the more readily, because I think if the state of affairs were more accurately known, a great many enterprising young farmers would come down here and settle, much to their advantage.

First I will say a few words in regard to the soil. As far as I have seen, from Petersburgh to Appomattox Court-house, and from Burkesville to Danville, the land is of a sandy loam, with a subsoil of stiff clay, slightly undulating, well wooded and watered; mostly hard wood toward the north and central section, and pine towards Petersburgh and Danville. It is divided into large plantations, varying from 800 to 2,000 to 3,000 acres, two-thirds of which is generally left in woodland and deserted tobacco fields; no effort being made to fertilize any of the soil—but it is used as long as it will bear a crop enough to pay for its cultivation, and then it is abandoned for some new land reclaimed from the woods. The soil in some places is quite rich, and with a good system of drainage and tillage, would make excellent farms.

The system of cultivation to which it has been subjected is as follows: A certain number of acres is put down in corn, hay, oats, wheat, &c., but only enough to support the hands and animals necessary to work the farm; the remainder is put out with tobacco, and quite a quantity of cotton is grown in this neighborhood. Now the whole of this is sold off the plantation, and for it there is not the slightest return of manure to the soil with the exception of four or five horses and quite a limited number of cows, there being no such a thing known in these parts as a "Dairy farm."

In preparing the soil for such crops as would give a fair return to the soil, such as those for home consumption, the plan of skim-plowing is adopted, the plow used here being quite a novelty to northern eyes; it is a little, old-fashioned, one-horse plow, that goes about four or five inches below the surface, and barely turns over the sod at that.

In sowing corn on land on which corn was raised the previous year, the method pursued is this: The plowman starts and plows a furrow between the old ones—much after the way we cultivate at the north—and the field presents the appearance of one old and one new furrow, alternately. In the new one the corn is sown, and when it springs up, the old furrow is hoed down around the corn. Thus you will see that scarcely a field is plowed over all at once.

Remonstrance with the inhabitants is useless; they will admit that they are wrong, but their plea is that it is the old way, and they have lots of land to go to as soon as the part under cultivation runs out. I have talked and argued with them until I have nearly lost all patience, so I have taken the plan now of distributing my old numbers of the "COUNTRY GENTLEMAN" to them, and I need scarcely say that they are sought after with avidity.

I should like you to have seen the surprise of the most of them on looking over the advertisements, and seeing the engravings of the "Patent Plaster Sower," "the Patent Potato Planter," "Hay-Fork," &c. One old farmer remarked to me, that "You Yanks beat all natur' in inventing machines to save labor, and are always successful. I wish I could get a good honest Yankee to work my farm for me."

Now this is the point which induced me to write. They are fully convinced that northern energy is the element which they lack, and they are anxious to have northerners come down and settle among them.

There is a fine chance for young men of small means; they could get all the land they wished to work, on shares, with colored labor in abundance and cheap, and a ready sale for their crop at their own door. Quite a number of farmers have expressed a desire to hire out their land, or a part of it, to some enterprising Yankee.

The weather here is very warm, and such things as were planted in season are very forward. We buy ripe strawberries, green peas, lettuce, &c., here already.

The prevailing opinion here is, that for want of means to work the land, there will not be sufficient crops raised to support the white population alone the coming winter.

The Sixth corps moves from this, en route for Alexandria, on Thursday, the 18th inst.

THOMAS H. BENTLEY,
Hospital Steward, 121st New-York Volunteers.

Feeding Barley and Rye to Mares.

MESSRS. TUCKER & SON—Thinking perhaps my experience might be of advantage to your correspondent W. R., as well as others, in reference to barley and rye as food for horses, and particularly for brood mares, I, as one of your subscribers and constant readers, accept your invitation to answer W. R.'s inquiries.

In reference to barley as a food for work and driving horses, I think it has no equal, being very safe, nutritious and palatable. There is no other grain that horses will eat and relish as long, without a change, or thrive better on. It is less liable to founder than corn, wheat or rye, yet contains but very little less nutriment than either of those grains.

My first experience in feeding barley to horses was in California, where there was no other grain raised for feed at the time I was there. All our horses were fed on it for two years without any change, and never got tired of it, always thriving and looking remarkably fine for the amount of labor they performed This induced me to raise it to feed after my return from that country, and I have learned to esteem it higher than any other grain (when ground) for horses. It is too hard to feed in the grain.

I have raised a great many colts, and have made breeding trotting horses a study, and in all my experience I have found nothing equal to barley meal to make a mare give milk. I have found it no disadvantage to a mare's getting with foal, and not any while she was so. Oats are a better feed for colts from weaning time until they go to work.

Rye is a dangerous grain to feed alone; it is more liable to founder than other grain; but to mix with shorts, or to grind with oats, and feed with cut hay or straw, it makes an excellent feed. Instead of its being a preventive to pregnancy in mares, it is an advantage. I own and keep for service one of the finest and most promising young trotting stallions in the State; and if any one has a mare they wish to put at a certain time, I always recommend feeding the mare boiled rye, blood warm, to get her in season, and it never fails to do its work in from three to five days, and I never knew a mare to refuse the horse after such treatment. Three quarts, three times a day, is good feeding. This discovery may be of great value to breeders, and save an enormous sight of trouble. This is the first letter I ever wrote for publication, and I have written it for the good of W. R. and the rest of my fellow horsemen. H. C. W.

Glen Cove, Queens Co., L. I.

Sales of Stock.—GEO. J. PUMPELLY, Esq., Owego, has lately purchased from the Short-Horn herd of Hon. EZRA CORNELL, Ithaca, the four-year old prize bull at Rochester, "St. Valentine," bred by R. A. Alexander of Kentucky, got by 2d Duke of Airdrie, dam Lady Valentine.

SAML. J. SHARPLESS, Esq., of Chester Co., Penn., has just added to his already beautiful herd of Alderney cattle, some very choice squirrel gray and fawn colored heifer calves of the Alderney breed, purchased of J. B. Okie of Delaware Co., Penn., at prices ranging from $125 to $230 per head, ages between one and two years.

Messrs. C. W. & E. P. Haynes, Barre, Mass., have just bought of S. W. Robbins of Weathersfield, Ct., a Short-Horn bull calf 7 months old, got by Duc De Argentine, 4703 A. H. B., out of Maid Marion 5th, bred by R. A. Alexander of Kentucky. Duc De Argentine was got by 2d Grand Duke (12961,) out of Darlington 6th, &c.

The "Great Improvement" in Sheep.

The New-Hampshire Journal of Agriculture quotes from an exchange various assertions as to the wonderful "improvement" in Merino sheep claimed by some to have taken place within five, ten, fifteen or twenty years, and adds the following statements:

Now this *improvement* begins about the time that the *shrinkage* in fine wool began to increase. Fifteen or twenty years since the shrinkage in fine wool in New-England was but 35 per cent., and it has been increasing every year since, until *to-day* it is from 48 to 54 per cent. on selected, washed wool, and upon unwashed wool it is 72 per cent. No wonder that *wool pays* when *dirt is sold for wool.*

But people are loth to believe that fine wool shrinks at this rate. We have an incident in point. The owner of a flock of fine wooled sheep, came not long since to one of the heaviest manufacturers of wool in the parts, and wished to sell his clip of wool. The manufacturer said that its shrinkage was so great, that he did not wish to buy. "But," said the grower, "my wool does not shrink a great deal." "Well," was the reply, "if your wool does not shrink in cleansing badly, I will take it. You may bring me five or ten fleeces as a sample, and I will look at it and buy the lot if it be as you say." In a few days the grower came with five fleeces of wool. It was examined. "Now," says the manufacturer, "your wool will shrink 50 per cent. in scouring." "No, that can't be." "Well, I will scour it and for every ounce it yields over 50 per cent., I will give you a gold dollar." "Agreed," said the grower, and the wool was scoured. "Now," said the manufacturer, "you must take the wool home and dry it, for the shrinkage will be so much, that if it were dried here, you would think we had taken some of the wool out of the parcel!" So the grower took the wool home to dry it and have it weighed! *But he has not come back for his gold dollars!*

In an answer to another assertion on the part of those who cultivate "heavy fleeces," we have the following:

No! the manufacturer will not pay a bounty of 68 cents on oil, nor "*washed* prices for wool *wet* in June and sheared in July." He won't buy it at all, and the clip of one, two and three years will remain on the farmers' hands. "That's what the matter is."

"A Vermont Farmer" is contributing a series of articles to the Brattleboro Record, on the sheep of that State, in which he ascribes the excellence of Vermont Merinos,—1. To their having had a better foundation to start from than any other State, in having more and better full-blood sheep to breed from; and, 2. To there having been more and better practical breeders. "And yet it does not follow," he goes on to say, "that the greatest excellence has been attained, or that no errors have been committed—no, nor even that the sheep that have been sold highest are really the best sheep.

"While some have bred mainly with a view to the growth of wool—and these would seem to be the most legitimate wool-growers — many others have bred wholly with a view to the sale of sheep, and in this they have succeeded. And yet this does not prove that the sheep so sold were the best that could have been raised, or the best that have been raised. They were good for the seller, perhaps the best, in view of the profit he has realized from them. But were they the best for the buyer? If he can raise others from them and sell for similar prices they may be. But is this probable? It certainly is not sure to be so. A peculiar concurrence of circumstances has favored the sale of a peculiar kind of sheep. The manufacturers have either heedlessly or foolishly, purchased their wool in such a way as to favor the growth of gum and grease rather than wool. They have made it profitable for the grower to raise fleece composed of one quarter wool and three-quarters gum, grease and dirt, and thus they have made sheep that yielded fleeces of this kind the most saleable. This has laid the foundation for our great sheep sales. This has given rise to the great call for heavy fleeced sheep, without regard to the amount of cleansed wool to be obtained from them.

"But what if there should be a change of policy in this respect, on the part of the manufacturers? What if the buyers should adopt a common sense practice, and should discriminate in their purchases so as to pay for only what they want to buy? What if they should buy in such a way as to make every fleece more or less valuable exactly in proportion to the amount of actual wool in it? What would be the effect of that upon the selling and the breeding of sheep? Why, then the man who should want to procure a superior ram for breeding purposes, instead of paying $1,000 or $5,000 for that whose fleece is made up of six pounds of wool and eighteen pounds of gum, grease and dirt, would sooner pay the same for one that yields seven pounds of wool, even if his whole fleece uncleansed should not weigh more than twelve or fourteen pounds, and even if it should not look so black as to make the sight of it dangerous to breeding ewes, lest it might cause them to have black lambs. Such sheep may then be preferred, even if they do not look any darker than it is natural for good full-blooded Merino sheep to be without any extra housing, pampering, or blackening over in any unnatural way whatever.

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"It is true this state of things has not yet come, and that our sheep breeders who have gone in for gum rather than wool, have done the most cunning thing they could do as far as selling sheep is concerned. In this they have certainly been shrewd and successful. They have succeeded in raising sheep which, although perhaps of less value for any other purpose, have commanded higher prices than have ever been paid before. But there are strong indications that a different state of things is soon to take place. 'If coming events cast their shadows before,' then there is something indicated by the shadowy masses of heavy wool now lying unsold in the wool-rooms of many Vermont farmers. The clippings of several successive years are remaining unsold."

HOW TO MAKE CORN-PUDDING.

"But have you nothing farther to tell me," she continued, "about corn-puddings?"

"I have," I answered; "and as many other persons besides 'H. Franco' may like to eat of corn-puddings, and as I know you will be likely to circulate the account through the sewing-circle"—here Mrs. Gray looked vexed—"I will give you the recipe for making this truly delectable dish, which is of Indian origin, improved upon by the Quakers, and which, when eaten, should constitute the sole repast of what is known in Nantucket under the name of 'tea.'

"Take four dozen full ears of sweet green corn"—here I got off the fence, and began to pluck the ears—"score the kernels and cut them from the cob. Scrape off what remains on the cob with a knife. Pound the corn cut off in a mortar. Add a pint and a half or one quart of milk, according to the youngness and juiciness of the corn. Add four eggs well beaten, a half tea-cup of flour, a half tea-cup of butter, a tablespoonful of sugar, and salt *quantum sufficit.* Bake in a well-greased earthern dish, in a hot oven, two hours. Place it on the table browned and smoking hot, eat it with plenty of fresh butter and be thankful."

Having by this time picked the necessary number of ears, I gave Mrs. Gray to understand that we would go home, and that I would immediately proceed to make the pudding, which, much to the indignation of the cook, and the intense delight of the black boy, I did. My wife, when we came to eat it, declared it was equal to anything of which she had ever partaken, and declared that if I would only go to New-York and open a corn-pudding shop, I might make my fortune.—*My Married Life at Hillside.*

Comfort and Economy in the Kitchen.

Owing to the great advance in house rents in our large cities, living in apartments in a style and comfort superior to our tenant-house system, has been suggested and widely discussed, and its advantages and disadvantages pointed out. Only those who are acquainted with the system, are aware of how unprepared we are to adopt it, and to reap all the advantages it promises from its working in other countries.

We will here notice the difference in our kitchens. The American kitchen is ordinarily a room large enough not to be over-heated in winter by a stove or range of sufficient capacity to do its work for the family, a large per centage of its heat being radiated in the room, and worse than wasted for six months of the year, as the overheated atmosphere is injurious to those employed in the kitchen.

The least possible space is allotted to the European kitchen, consistent with the work of cooking. It is not, as with us, also a servant's dining-room and laundry, but exclusively a kitchen, and the cook can conduct her work more comfortably in these little kitchens, than we do in ours, for their cooking range or stove is provided with non-conducting surfaces, porcelain tiling generally, and over the range a ventilating shaft, so that the heat, smoke and odors are readily drawn off. A man will patiently bear the smell of his own dinner, but not as patiently that of his neighbors.

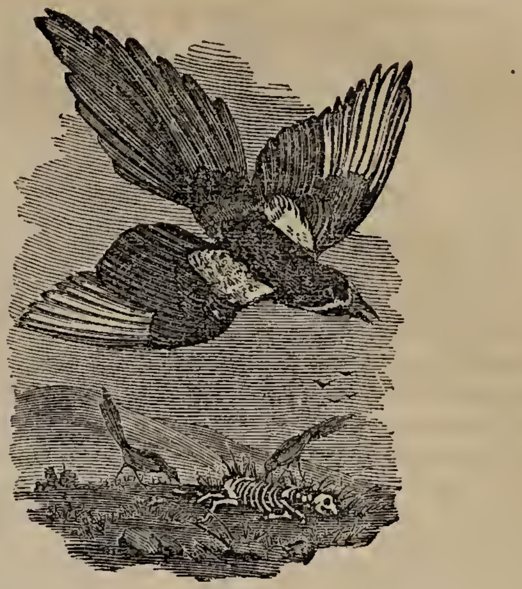
During the summer months freedom from over-heating is very desirable, as comfort and economy should be attained thereby. It will occur to the reader, how are you going to procure sufficient warmth in our climate in winter? We reply, by having the non-conducting surfaces movable, and upon the approach of cold weather remove them, or have the non-conducting sides stationary, and the kitchen heated by a register from the furnace which heats the house. These detachable plates could be made to slide in grooves made in the top and bottom plates of the stove. The saving in one season would more than offset the cost, to say nothing of the gain in comfort.

For economy in cooking and heating apparatus, Mr. P. P. Stewart of Troy, N. Y., has accomplished a great deal—not so much by any great novelty in his inventions, as by the great care and perfection he insists upon in their manufacture. Although his stoves were for years struggling unequally against many of less cost and inferior workmanship, they now have a most extensive sale.

Mr. S. was, we believe, the first to make application in this country, of non-conducting sides and bottom to stoves; but as the question of economy has not, owing to the low price of fuel for some years past, interested the public, these attachments, (except the bottom one,) are not generally known, and are rarely called for.

An efficient cooking range or stove so constructed that it will do its work economically and with the greatest comfort to the cook, promises an ample reward to the inventor. Although gas and petroleum do not give as much heat as equal values of wood or coal, still in many cases they are a cheaper fuel; being under more ready control, the consumption can be instantly checked. When we consider the abundance of petroleum, its freedom from dust, no removal of ashes, it commends itself to the summer kitchen, and as an important adjunct to a stove or range for small operations where the delay and trouble of kindling coal or wood would be objectionable, and more expensive.

Much remains to be done towards making cooking more agreeable as an accomplishment, as well as a necessity, and every step in this direction will interest more talent and intelligence in a knowledge of this important art. X.



THE MAGPIE---*Pica hudsonica*—Bonap

Two species of Magpies inhabit North America, the Yellow-billed Magpie (*Pica nuttalli*, Aud.) and the common Magpie (*Pica hudsonica*, Bonap.,) which forms the subject of the present article. The former we believe has only been found in California, but the latter inhabits the larger part of the Arctic regions of North America.

The Magpie is a wary, crafty and mischevious bird He destroys the eggs of various small birds, and frequently also kills and eats their young. He feeds on carrion when compelled by hunger.

Richardson gives the following measurements of English and American eggs: American eggs 1 inch, lines 3½; breadth 0 inches, lines 7.

English eggs, length 1 inch, lines 2 7-9ths; breadth 0 inches, lines 7¾.

J. P. NORRIS.

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RECIPE FOR HARD SOAP.

In your paper of 6th of April, Mrs. H. D., inquires how to make hard soap. We do it here by using 3 lbs. of quick lime, 6 lbs. of washing soda, 6 lbs. of grease, 4 gallons of water.

Boil the lime, soda and water together for 12 minutes, and let it settle. Throw away all white water and settlings, and put the clear liquid into a pot with the grease, and boil together half an hour, or until it looks like soft soap, when it can be moulded in any manner convenient, and placed to dry. When perfumed it makes a very good soap for the toilet. O. E. F. *New Brunswick.*

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Onondaga County.—Hon. Geo. Geddes writes us under date of Fairmount, N. Y., May 1st:—

"The last month has on the whole been favorable for the farmers to do their work—and grass and wheat are unusually forward for the first day of May. Our cows have been turned during the middle of the day on an old pasture, for the last two weeks, so that they are now giving us milk that makes yellow butter. Of course we continue feeding hay, nights and in the mornings. This is a thing we have never done before, that is, turn out our cows before grass was well started, so that they could make their entire living on it. I am pleased with the working of this new way of getting from hay to grass. Wheat on the whole looks well, and is so well started that I shall not expect to see *rusty* wheat this year—nor shall I expect trouble from the midge—these are the enemies of wheat that is backward in the spring, so far as my observation goes."

THE CULTIVATOR.

ALBANY, N. Y., JUNE, 1865.

Quo Warranto---The Organization of Societies.—When we see accounts of the organization of "National" and other associations purporting to represent certain localities or districts, we cannot avoid the conclusion in many cases, either that those concerned are ignorant of the principles of justice and propriety involved, or that they purposely design to mislead and deceive. By what right do a score, or a hundred men, worthy persons though they are, presume to speak for any other communities than those in which they themselves reside? A society, to be in any sense "National," should be formed by representatives from at least a majority of the different localities thus associated. It is very easy to make out a string of Vice-Presidents, "one from each State and Territory," and looks well on paper—possibly. But it is a wholly gratuitous operation, unless the appointing power is delegated by parties who can really speak for the whole region thus embraced.

These remarks have been occasioned by the organization of a so-called "National Poultry Association" in an eastern town, but are not intended to apply in an especial or invidious way to any one therein engaged. We wish simply to direct attention to the evils and impropriety of the whole thing. If the pretensions involved were not often as ridiculous as those of the famous three tailors of Tooley Street, greater harm might be done. But we are too apt, often, to pardon the ambitious zeal of well-meaning men, if it outruns their discretion in what is not intrinsically an objectionable undertaking. A different standard should be recognized and insisted on. Where a certain district is to be represented in a Society or Association bearing its name, whether it be a county, a State, or the nation at large—either through a call for a convention, or some other means, the whole district concerned should first be apprized of the movement, and those interested have the opportunity afforded them of uniting in it.—And if any considerable part—certainly if a majority, of its different parts, abstain from countenancing or taking part in the scheme, it ought only to bear the name of those who *are* actually its sponsors and participants. No report of meetings held for the organization of Societies should carry any weight, unless it is distinctly specified who, and in what numbers, and from what localities, they were whose proceedings are recorded.

All this, we are quite aware, is nothing new, either in principle or precept; but it is so often disregarded now-a-days, that it seems well to go back to what is just and right, and to enter a most decided protest against the promulgation or public countenance hereafter of names not clearly and indisputably authenticated. And if we ever feel called upon to apply these principles to particular cases, it will be done only as insisting upon what is an inalienable right of self-protection on the part of the community at large, and not necessarily as impugning the personal motives of those implicated.

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"Facts about Peat."—This is the title of a very nicely printed volume in paper covers, of 120 pages—compiled by T. H. Leavitt, and published by Leavitt & Hunnewell, Boston—price One Dollar. It reviews the origin and composition of peat, the ordinary methods of its preparation for fuel, the different deposits of it, in greatest quantity, in other countries, and in our own, the uses to which it may be put in the arts, &c. All this is interesting, and has evidently been prepared with care. By an appendix we learn that the publishers are the Agents of a Company in process of formation, owning the patent for a new process for the preparation of peat; which process is stated to have been "thoroughly and satisfactorily tested." Although the prospectus of the company reads in some respects a little like those of the Petroleum and other speculations just now so much in vogue, and we do not find any description of their process sufficiently detailed to enable us to form an opinion of its probable value,—still if it is such that it can be applied without too great outlay, and will yield an article of fuel comparing favorably with wood and coal at a cheaper price, the subject is worth the investigation of those having beds of peat at hand where a ready market for it could be obtained. We do not understand whether it is the *main design* of the company, with its proposed capital of $250,000, to get out peat for sale—they have, it is stated, 140 acres of peat lands for the purpose—or whether it is to manufacture machinery for the use of others; or, in either case, how large a proportion of the sum named is to go to the owner of the patent for his right, and what amount would really be required to carry out the purposes of the patent alone.

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Alderney Cattle—Advertising.—Perhaps no single class of stock has been in as constant and good demand for several years back, as this. A gentleman who lately advertised a bull and cow two or three weeks in the COUNTRY GENTLEMAN, writes: "There is either a great demand for Alderney cattle in the country, or your paper is *the best advertising medium*, as I have had more than fifty letters in answer to my advertisement."

Advertising alone, we may remark, will not *create* a demand, where *none exists*—a fact which accounts for those cases in which the experiment is unsuccessfully tried; but where the article advertised *does* meet a public want, the return obtained from giving publicity in this way to where it may be had, is very certain and very quick. We constantly receive letters speaking in the highest terms of the results derived from advertisements in the COUNTRY GENTLEMAN and THE CULTIVATOR, as surpassing all expectation, but the constant pressure upon our space speaks more loudly even than these verbal compliments. We should not hesitate to challenge a comparison of the results of advertising in our columns, with that in any other periodical in which the price charged is even double our own; and for some classes of Live Stock, Farming Implements, Manures, Seeds and Nursery products, we should not pause at this limit—believing that to secure customers for these the COUNTRY GENTLEMAN has no superior at any price.

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School of Mines.—A school of Mines was established last year in connection with Columbia College, New-York City, the first terms of which during the winter have been very fully attended. The ability of the corps of professors connected with the institution, the advantages of its location, and the rapid development of mining enterprizes in the country, are such as will probably enable the trustees to render this fully equal to many foreign schools of the kind now frequented by American students. Dr. CHAS. F. CHANDLER, late of Union College, Schenectady, accepted the chair of Chemistry on the organization of this school, and may be addressed at 246 East 51st street, New-York, for farther information.

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Short-Horns.—F. M. Wood, Esq., of Grafton, Mass., has purchased of H. G. White, South Framingham, Mass., the following Short-Horns:—Ada, by Earl of Warwick 465—dam Atlanta 3d by Logan 2d 652; Governess 4th by Duke of Orleans 3877—dam Governess by imported Governor (12857,) and Dawn 2d by Monitor 5019—dam Dawn by Earl of Warwick 465.

N. Y. State Agricultural Society.—The Premium List for the next State Fair, to be held at Utica, Sept. 12–15, is now ready, and copies may be had by addressing the Secretary, Col. B. P. Johnson, Albany. There is every reason to hope for an exhibition of great extent and interest. We trust that the lack of general competition among our cattle men for the last year or two, may be made up by an unusually good turn-out the present season. The Short-Horn certainly cannot afford to stand in the back ground. For the Devon, the re-opening of the Southern market may be expected to create a new demand. Our dairy farmers—and Utica is almost in the centre of the great dairying interests—were never more wide awake, and those who have Ayrshires and Alderneys should not fail to be on hand. In Fine Wooled Sheep similar inducements, as we have already shown, were never before offered in this State, nor, to our knowledge, in any other. As to the Mutton breeds, it concerns the honor of our breeders, who were under such a cloud as to numbers, at Rochester last year, to retrieve their reputation in this respect.

It is expected that arrangements will be completed by which with the co-operation of the Cheese Manufacturers' Association, a magnificent display of this important product will be secured. Five hundred or a thousand of the best cheeses turned out by the standard Factories and farmers of Central New-York, will be a display of unprecedented character, and should attract all who are concerned either in the manufacture or purchase of the article.

Smoothing the Surface of Lawns.—A friend inquires the best mode of changing a rough and uneven grassy surface, in his door-yard, to one that is perfectly smooth and even, so as to admit shaving with the scythe within half an inch of the surface.

There are three ways of accomplishing this purpose. Where the irregularities are slight, sand or fine soil may be spread over the surface, filling up the cavities; through this the grass will grow. Successive applications may be made when required. Another mode is to spade up the whole surface, making it perfectly smooth and even, and then re-seeding. If the extent is large, the same result may be attained by plowing, grading and harrowing. The amount of seed should be 7 or 8 times as much as for common field seeding. If a close, dense, smooth carpet of grass is desired, the third mode, and in many instances the best for a limited extent, is to pare the turf carefully from the whole surface, then render it perfectly even and replace the turf. This operation must not be performed by a bungler, but so skillfully accomplished that the lawn scythe may pass over the ground and shave the grass within half an inch of the surface throughout.

Connecticut.—The Faculty of the Sheffield Scientific School at New-Haven announce their Course in Agriculture, to open Sept. 13th next. We have heretofore given the names of the professors particularly connected with this department of instruction. The course will occupy three years, like that at the Rutgers Scientific School already alluded to—the first year mainly preparatory, including the English and French languages, physics, mathematics, botany, chemistry and drawing. The requisites for admission are somewhat higher in mathematics and natural philosophy than at Rutgers, but both in agriculture and in other studies, the general outline covers somewhat similar ground in both. The charge for tuition is $100 per annum at New-Haven; $75 at Rutgers.

Instruction during the second and third year is to be mainly by lectures, illustrated by specimens, experiments and demonstrations. The school has no farm at present, but excursions in the vicinity will supply means of observation. Collections of various objects of interest, and an agricultural library and reading room are to be supplied as soon as possible.

A shorter course is also to be provided, during the seven winter months, for those who cannot attend the full year.

Agricultural Colleges.—At a meeting of the Corporators of the Vermont Agricultural College at Montpelier, May 2d, Hon. Justin S. Morrill was chosen President, and resolutions were adopted making each corporator a committee in his own county, to procure subscriptions to the fund of $100,000 required by the act; appointing a committee to report a plan for the permanent organization of the College; appointing a committee to draft an address to the people of the State; and appointing a committee to confer with each of the Colleges in the State, with a view of merging any or all with the Agricultural College. Unless $100,000 shall be secured before the 15th of November, the project fails. Three of the corporators have pledged one thousand dollars each *unconditionally.* The following gentlemen are Trustees, with terms of office as respectively drawn:

1st class, holding office two years.—Horatio Herrick, L. H. Tabor, Roderick Richardson, Frederick Holbrook, G. G. Benedict, Secretary.

2d class, to hold for four years.—Horace Fairbanks, Edwin Hammond, T. W. Park, Elijah Cleveland, S. H. Stevens.

3d class, to hold for six years.—S. M. Dorr, Justin S. Morrill, President, Peter T. Washburn, O. G. Wheeler.

The Trustees of the Maine Agricultural College have organized by the choice of Hon. Hannibal Hamlin, of Bangor, President; S. L. Goodale, of Saco, Secretary; Phineas Barnes, of Portland, Treasurer. Three propositions have been submitted to the Board, viz.: Hon. F. O. J. Smith's farm at Gorham, B. F. Nourse's farm at Orrington, and the Togus estate in Chelsea. In the two former the owners propose to give the property outright to the State; the latter proposes to have the land appraised by disinterested persons, and then sold to the State, the amount received to be given to the institution.

The Washington Co. Sheep Breeders' and Wool Growers' Association.—The first exhibition and public shearing of this Association was held at North Granville, May 4th and 5th. The exhibition was much larger than was anticipated,—many Vermont breeders exhibited their sheep, and some of the neighboring counties were well represented. The Association is found to be a complete success. There were between one and two hundred entries; some thirty were shorn on the ground. It was decided to print a full report in pamphlet form. Those desiring them should address the Secretary, Isaac V. Baker, Jr., at Comstock's Landing, N. Y. This Association, we are informed, now numbers about one hundred and fifty members, all sheep breeders and wool growers, and nearly all are residents of the county.

Country Gentleman Prize Essays.

1. Rotation of Crops.—For the best Essay derived from the experience and observation of the writer, on the rotation of crops in general farm management, adapted to the practice of this country, including an outline of the treatment of the crops comprising the rotation—*Twenty-Five Dollars.* And, for the 2d best, *Fifteen Dollars.*
2. Fine Wooled Sheep.—For the best Essay on the Breeding and Management of Fine Wooled Sheep, including both flocks that are mainly kept for breeding purposes, and those of larger size, either at the east or west, where the wool clip is the great object, and economy in attendance an important requisite—*Twenty-Five Dollars.* And, for the 2d best, *Fifteen Dollars.*

Competing Essays to be sent to this Office by the 1st of June next. The privilege retained by us of publishing both the successful and unsuccessful Essays, in part or in full as advisable.

The Farmer of "Willow Glen."—Our correspondent of so many years, LEVI BARTLETT, of Warner, N. H., writes us an interesting private letter, dated on Saturday, the 29th of April, and is led by the recent allusion to JOHN JOHNSTON's age in our columns, to mention the following facts, which we take the liberty of putting in print:

> "I am writing this letter on my 72d birth day. On Monday, Tuesday and Wednesday of this week I held a 'breaking-up plow,' equal to two days' time, and I do as much hard work every day and week now, as I did in the same time thirty or forty years ago. You will see by my writing that I yet carry a steady hand. I renounced ardent spirits nearly fifty years ago. * * * As you are aware, the New-England Agricultural Society will hold its Fair at Concord, N. H., the coming autumn, and if, as I trust, you are there to see, you will of course so arrange as to visit 'Willow Glen.'"

Nothing will give us greater pleasure than the acceptance of this invitation if possible. Our readers will unite their congratulations with our own, upon the vigor both of pen and hand, still shown by the Farmer of Willow Glen, who has now advanced a second stage beyond the limit of three-score and ten. He has been and is still an extensive reader, as well as a sound and careful writer, although not having formed the habit of mental application, we believe, until well advanced in middle life, or, at least, at a period when many farmers relax their interest in studious pursuits, or abandon themselves wholly to physical exertion. In this respect Mr. BARTLETT's example is worthy of a prominent place before his brother farmers; it proves not only that the discipline and activity of the mind are by no means incompatible with unwearying industry, but also how much may be added both to the usefulness and to the continuance of life, by temperance and a diligent employment of the passing hours.

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Fruit in West Jersey.—Inquiries instituted by the West Jersey Fruit Growers' Association show that there were under cultivation during the season of 1864, in the four townships of Burlington, Beverly, Chester and Cinnaminson, 488 acres of Strawberries, yielding a general average of 58½ bushels per acre, and an aggregate of 27,924 bushels, producing the sum of $164,633.60—an average value per bushel a little short of $6. "The mode of cultivation almost universally adopted, is to plant in rows 5 feet apart, and 1 foot in the row, and train the vines into beds 3½ feet wide, leaving an alley 18 inches wide between the beds. This mode has succeeded better than any other, and with the ground well prepared by deep plowing and manuring, will insure a good crop the first fruiting year. It is now a question whether it is not more profitable to renew the beds annually, than to expend much time and labor in removing weeds and preparing the beds for a second crop."

In Blackberries there are reported 189½ acres, producing 9,189 bushels of fruit—average per acre 48½ bush.—average value $4.80 per bushel; aggregate sales $44,107.20. "The crop in Beverly is reported to have been reduced about one-half, from the effects of the severe drouth that prevailed through the fruiting season. Mulching the soil heavily, when practicable, would prevent the effect of a drouth to a very great extent, on both the Blackberry and Raspberry, and the crop be much increased thereby. The New Rochelle is still ahead of all competitors, yielding large crops of the finest fruit. Some new varieties have been produced, but so far none of them appear to stand the test of field culture, and are mostly discarded. An early variety, equal in size, quality and productiveness to the New Rochelle, would be a decided acquisition, and it is reported about to make its appearance."

Raspberries, currants, gooseberries, cranberries and grapes are not so extensively cultivated. One peach orchard is mentioned containing about 50 acres, from which was marketed the past season near 13,000 baskets of fruit, at an average price of 50 cents per basket. The crop was much injured by a severe hail storm that occurred while many of the trees were loaded with fruit, and hundreds of baskets were sold at from 15 to 25 cts. per basket, which accounts for the low average of the whole crop.

Twenty-five to thirty years ago peaches were grown in this locality with but little care or cost, but a change came over them, and for many years scarcely any could be produced. Many trees that were planted out died without bearing any fruit; indeed it was thought to be an entire waste of labor to plant peach trees. But there seems reason to believe that they are again becoming a surer crop, and many are planting out new orchards.

These facts are from the Transactions of the Association for 1864, just published in pamphlet form. President, CLAYTON LIPPINCOTT, Moorestown; Corresponding Secretary, Wm. Parry, Cinnaminson.

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The Tobacco Crop of the United States.—The Journal of the Society of Arts gives the following interesting table of the exports of tobacco from this country for seventy-seven years, in periods of seven years each, showing that the increase has been very large and almost continuously steady in its nature:

AVERAGE SHIPMENTS IN SEVEN YEARS.

Period.	Hhds.	
1787—1793	87,836	The first period is the seven years after the revolutionary war.
1794—1800	71.131	Second and third, during the European war.
1801—1807	81,112	
1808—1814	31,141	Fourth, includes war with Europe of 1812, preventing shipments during last two years.
1815—1821	73,358	The fifth to ninth periods show a steady and constant increase during 35 years' peace.
1822—1828	85,207	
1829—1835	85,567	
1836—1842	100,423	
1843—1849	126,267	
1850—1856	116,274	Tenth, a decline, at the end of which, in 1857, prices reached their highest point ever obtained in the three markets, in proportion to quality.
1857—1863	139,552	The last shows an average increase over every preceding one, notwithstanding that during the last three years the markets of Virginia have been closed.

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Merinos at the next State Fair.—The following extract from the forthcoming Premium List of the N. Y. State Agricultural Society is given in the last number of the Journal of the Society:

No. 37. MERINO SHEEP.—In adopting a classification of Merino sheep upon the model of that established at the Hamburgh exhibition, it will be observed that the Society has largely increased the aggregate amount of the premiums offered; while these premiums are so arranged, it is believed, as to meet the wants of our wool-growers much more fully than ever before. Exhibitors will be at liberty to enter their sheep in either one of the following divisions, according to their own judgment, stating the particular division at the time of making the entry, as separate committees will examine the several divisions:

A—*Bred with especial view to Fineness of Wool.*

Best ram, two years and upwards,	$10
Second best ram, two years and upwards,	8
Best ram under two years,	10
Second best ram under two years,	8
Best pen three ewes, two years and upwards,	10
Second best, two years and upwards,	8
Best pen three ewes, under two years,	10
Second best, under two years,	8

B—*Bred with especial view to Weight of Fleece.*

Same premiums as under A.

C—*Bred with especial view to Form of Body, (or constitution) and light keeping.*

Same premiums as under A.

D—*Bred with a combined view to Fineness of Wool, Weight of Fleece and Weight of Body.*

Same premiums as under A.

Inquiries and Answers.

Bone Manure.—I have half a ton of bones; what is the best way to prepare them for use as manure—*give process?* I can get half their weight in bone meal for them—is that better, and how use it? Is well rotted chip dirt worth hauling two miles for manure? A. D. [It has long been a desideratum not yet reached, to prepare bones for manure in some good and easy way. Different experiments have been tried with various degrees of success—such as mixing them with fermenting manure—with turf moistened with liquid manure, with ashes, &c. If the bones are previously broken with a sledge, and the work is well performed, with heaps large enough to produce fermentation, all these modes appear to succeed tolerably well, but we need further experience to confirm their respective values. Half a ton of ground bones is better than a ton of unbroken ones. Chip manure, if consisting mainly of decayed vegetable matter, is not worth drawing two miles for ordinary crops; but on heavy soils as a loosener, by intermixing it, may prove very useful for the kitchen garden, in raising such crops as succeed best on light or loosened soils.]

Broom Corn.—I wish to know the amount of seed required per acre for planting dwarf broom corn, and the proper distance in the drills and rows. Also whether unfermented stable manure, worked in immediately before planting, would be beneficial? Will you or some correspondent of the Co. Gent., please answer in your valuable paper? D. H. [Broom corn is planted in rows about three feet apart, the hills about 20 inches asunder in the row, and seven or eight stalks are left in a hill. If there are fewer stalks in a hill it will be coarser. The cultivation is performed by a horse, and should be repeated a number of times. Half a peck is seed enough per acre if it is all good and evenly planted. If the seed is not so good, and much thinning is given, a larger amount of seed will be required. The soil should be rich, but if unfermented manure is worked in, it should be well pulverized and mixed with the soil by harrowing, in addition to the usual plowing. Broom corn seed being smaller, should not be planted so deep as common corn. Will some of our readers who are familiar with the cultivation of this crop, please give the details more minutely and accurately?]

Cucumber Bugs—Lunar Influence.—1. Can you tell us of anything that will destroy bugs that infest melon and cucumber vines.—2. Also if the changes of the moon have an effect upon the growth of plants; and if so, at what changes should we plant in order to obtain a good yield or more productive? A Constant Reader. [1. There are two ways of avoiding the ravages of cucumber bugs. One is to pass around regularly two or three times a day and pinch them with thumb and finger; and the other is to exclude them by boxes or frames, covered with netting, or by placing four bricks on edges closely around the hill, and covering with a pane of glass. The application of nostrums to repel them does not succeed. —2. The moon is entirely innocent of any detrimental influence on vegetation, and equally undeserving of any credit for promoting growth. The best time to plant is when the soil is in fine condition, and the season favorable.]

Management of Old Meadows.—What crops are the best adapted and most profitable for the first or a single year on old meadow and pasture land, so run out that it will not produce over a half ton of hay per acre? Soil mostly a heavy clay and hard pan. Querist. *Schoharie Co.* [There are two ways—the first and simplest is to give a good top-dressing of common manure in autumn, the earlier the better, but succeeding well any time before winter. Spread this manure finely and evenly, harrow it very early the next spring with a sharp-toothed harrow, and sow grass seed on the scarified surface before a rain. The other mode is to spread the manure in the same way, and turn the sod over to a moderate depth in spring, and plant corn. Follow the corn with barley, spring wheat or a thin crop of oats, and seed down to grass with this crop.]

The Cornell University.—In answer to the inquiries of S. C. T., Watertown: The free students provided for in the law establishing this institution, as referred to in a late number of this paper, are to receive *tuition* without charge; board and personal expenses at their own charge. Our notice as to the number of free students thus provided for, was from the law itself, and therefore correct. The following regulation is the one to which you refer: "The said free instruction shall be accorded to said students in consideration of their superior ability, and as a reward for superior scholarship in the academics and public schools of this State, and the students shall be selected as follows: The school commissioner or commissioners of each county, and the board of education of each city, or those performing the duties of such a board, shall select annually the best scholar from each academy and each public school of their respective counties or cities, as candidates for the university scholarship. The candidates thus selected in each county or city, shall meet at such time and place in each year, as the board of supervisors of the county shall appoint, to be examined by a board consisting of the school commissioner or commissioners of the county, or the said board of education of the cities, with such other persons as the supervisors shall appoint, who shall examine said candidates, and determine which of them are the best scholars, and the board of supervisors shall then select therefrom the best scholars, to the number of one for each assembly district in said county or city." Until the institution is actually in working order, which will not probably be the case for some time, we could not advise you as to the requirements for admission. The Peoples' College is not in operation.

State Agricultural Society.—*J. M. R.* A life member has free admission at the Society's Exhibitions, and can make entries without charge. He also receives the volume of Transactions. The Transactions for 1864 were ordered printed by the legislature just before the recent adjournment of that body, and will be published as soon as the pressure of other Legislative printing allows—probably in time for the next Fair in September.

Corn Fodder.—A friend writes: "At the time of the annual meeting of the New-York State Ag. Society, a gentleman described to Mr. Tucker, Jr., his method of stacking corn fodder. I wish it might appear in the Co. Gent., as I did not quite understand it. It would be worth knowing to many." [We should be glad to receive a full description of the mode of stacking referred to, as in attempting it from memory we might fail to render it perfectly clear. If not received, however, we will do the best we can.]

Barley for Horses.—Can you or any of your readers inform me if barley is a good feed for horses, and is it injurious to breeding mares fed either during the season or while with foal? I have heard that mares would not get with foal while fed on rye—is it the case? W. R. [We have been in the practice for many years of feeding barley meal to horses—preferring to sell oats, and retain the barley for this purpose in order to prevent its manufacture into liquor. The barley is too hard without grinding, but in the form of meal is an excellent feed for working and travelling horses. Having had no experience with breeding mares, we invite answers, from our readers, to the rest of the inquiries.]

Mowing Machines.—I am going to buy a mowing machine, and very much wish some advice as to whose machine to purchase? A. W. C. *Clarion, Pa.* [We can heartily recommend any of the mowers which have been advertised in this paper. There are doubtless other machines equally good; but we know of no one so superior to all others, that we can recommend it as the best. In answer to G. W., *Suffolk, Co.*, we may state that no prizes were awarded at our last State Fair, on mowers or reapers, as no trial to test their merits was had.]

Insect Injury to Raspberry Canes.—I wish to know if there is any remedy against the insect that troubles the raspberry canes. I find the canes perforated in spots, and apparently dying, while in the pith there are maggots, or perhaps a kind of chrysalis. I doubt not some of your correspondents may know of a cure, though I have never seen it spoken of in your columns. Enclosed please find a section of cane so diseased. A remedy would doubtless be of great use to many of your readers. A Reader. *Kalamazoo, Mich.* [In the Co. Gent. for June 16, 1864, p. 386, you will find a full account of the insect which does the injury to your raspberries, by Dr. Fitch, with his suggestions how to prevent their operations.]

Fences.—In answer to B., Laporte, in the last paper, I would say that I have found that an open fence will stand against water or ice better than any other except a line fence. In Todd's Manual, page 87, is a cut of it which he calls a side-hill fence. I prefer here to say that three-quarters of the weight of the rail rests on the ground, which lets the top end of the rail go just half way back to the next pair of stakes; the stakes should lean forward enough to stand at right angles with the rails. J. H.

Turnip-Rooted Chervil.—Can you inform me how to treat the seeds of the Bulbous-Rooted Chervil, to ensure germination? I last spring purchased a package of the seeds, and sowed a portion twice, but as no plants made their appearance, I wish to learn from you or your contributors, how to proceed to meet with success next time. Wm. Thorburn's Catalogue directs sowing in August or September. Do the plants then come up where the seeds have not been kept in sand, or does the long moisture, and freezing and thawing of winter, produce germination the ensuing spring? Could they not be started in hot-bed, and be brought to maturity the same season? Chas. D. Smith. *Goshen, N. Y.* [We copy from Burr's "Field and Garden Vegetables of America," what is there said of this plant:

Soil and Cultivation.—The seeds may be sown in drills, in October or April, in the manner of sowing the seeds of the common carrot; preference to be given to rich, mellow soil. The roots will attain their full size by the following August or September, when they should be harvested. With a little care to prevent sprouting, they may be preserved until April.

Seed.—The roots intended for seed should be set in the open ground in autumn or in spring. The seeds will ripen in August, and should be sown within a month or two of the time of ripening, or, if kept till spring, should be packed in earth or sand; for, when these precautions are neglected, they will often remain dormant in the ground throughout the year.]

The Wild Onion.—I would be glad to learn from you or any of your intelligent correspondents, the best mode for extracting wild onions which grow profusely every spring and autumn about my house. I have a beautiful slope below my house that I am bringing into rich cultivation, but it is covered with these wild onions spring and autumn. I plowed this ground twice, and have sowed oats on it, but the onions are nearly as thick as the grain. What method would be best to rid the soil of them? They are indigenous for miles round here. I sowed the field with beef salt, but it has had no effect to stay the growth of the weed. It is my intention to seed this ground down in autumn, and I mean to thoroughly enrich it, cure it, and plow it twice. Is there any other mode that you could recommend by which I could destroy these weeds without being obliged to dig them up with a spade?—which would be endless work. The vile weed Snapdragon is making fearful ravages in this neighborhood, and it seems that it cannot be banished. Where it ramifies around and about rocks, and under stone walls, it would be bootless to attempt to follow its multitudinous fibres through all their ramifications. You cannot prevent some of it from running to seed, and its fibres have such spreading tendencies that should you dig up a root with the spade, and happen to break some of its tendril and leave it in the ground, the following year it will exhibit itself in ungratifying abundance. Is there any chemical compound that one could use to exterminate this noxious fated weed; some say that the ground well sprinkled with vitriol would kill it, but I don't believe it. Give me your opinion, and tell me what to do, and it will be a source of great gratification to my mind. A Subscriber. [As a general rule, it is much easier to destroy the roots of weeds by smothering, than by attempting to dig the roots out. A root which can never form a leaf above ground will perish in a few months. Repeatedly plowing under, (which is best done with the largest double Michigan plow,) where the crop extends over fields, or turning under with a spade, on a smaller scale, will usually destroy all weeds, where the nature of the soil will admit. In other cases a coating of sawdust will in a few months destroy all the vegetable growth in the soil beneath. Very thick seeding with strong growing grasses or other crops will smother out weeds. We have seen the ox-eye daisy excluded by a heavy and dense growth of clover; and other weeds have been killed by a thick seeding of corn or sorghum for fodder. We are unable to say how far the same result might be reached with the wild onion and snapdragon, not having had much experience with these last named weeds.]

Onion Culture.—Before sowing carrots between rows of onions, will it be best to loosen the soil between the rows with a bayonet hoe? It certainly would be best for the carrots; will it hurt the onions? In raising seed from onions will it do to let them remain in the ground after harvesting the seed for a crop next year. I understand that some parties that raise onion seed for market pursue that method, gathering seed from year to year from the same roots, without taking them up—will not such seed degenerate? J. A. D. *Po'keepsie.* [We are not familiar with the details of cultivating the onion crop, but there can be no injury to any crop by loosening the soil, if the roots are not badly mutilated while the plants are growing. Will some of our readers who are familiar with raising onion seed, please answer the inquiry?]

Hen Manure.—Which is the best manner of applying hen manure to corn hills? Would harm result from using it without composting? How much would answer for one hill? Please reply in next paper. E. W. *Easton. Conn.* [Undiluted hen manure is too strong to be applied in contact with the seed. If the quantity applied is small and a thin layer of earth is interposed between them, it will succeed well. Billing's Corn planter will drop the manure if it is well pulverized, from one compartment of the hopper, while the seed drops from the other, and leaving a half inch or more of earth between them. A good way is to scatter a spoonful of the powdered manure in a hill, partly cover it and mix it, with a stroke of the hoe, and then plant the seed.]

Manure.—1. I have a large quantity of sheep and cattle manure, with a considerable quantity of straw and refuse hay intermixed, which I wish to draw out and heap for wheat this fall. How thick should it be piled, and how often should it be forked over? Would it be advisable to draw out muck fresh from the swamp and cover the heap about a foot? I have none that is seasoned.—2. What is the best material to throw in privies for the formation of poudrette?—3. Does the packing of barn-yard manure prevent its rotting? W. *Fishkill.* [1. The treatment of this pile of manure must depend somewhat upon circumstances. If there is but a small quantity of straw, it may be best to intermix with it thin layers of turf or loam to form compost. If the layers are very thin it will need no forking over till used. If there is a large quantity of straw, this will be a sufficient absorbent without other addition. In forming all compost heaps like this, the manure should be sufficiently moist, and the absorbent rather dry.—2. Pulverized charcoal is probably the best absorbing substance, but is usually difficult to obtain in large quantity. The best which is easily accessible, is coal ashes which has never been wet with rains. Its extreme dryness and earthy nature renders it a fine absorbent, and if a little is applied to a vault every day throughout the year, it not only destroys the offensive odor, but renders the contents capable of being shovelled out as easily as common sand. Loam or common soil, if perfectly dry and pulverized, is also a good absorbent.—3. The hard packing of barn-yard manure by the tread of cattle's feet, prevents the action of air and fermentation.]

Corn Planter.—I noticed in the Co. Gent. of May 4th an inquiry about Billing's Corn Planter, where it can be obtained, &c. I have used Billing's Planter for five seasons, and shall use it this season to plant nine or ten acres. I have used plaster in mine. It will drop plaster in any quantity desired, and I see nothing why it will not drop any concentrated manure that is dry. It will drop corn in hills 11, 22 or 44 inches apart, three grains or more in a hill, as desired, regulated by the size of hole in the slide, according to size of grains planted. My machine was from Oliver Ames & Son's Warehouse, Boston and Worcester, Mass. L. J.

The Horse.—There has recently been much said in your valuable paper on the best and cheapest modes of keeping and feeding cows, sheep, swine, and poultry; now will some of your contributors give us the best method and the cheapest for keeping, (and by keeping I mean feeding, caring for and using the horse.) There are in this country a great many men like myself, mechanics and men of small means, that keep horses partly from pure love of the animal, but more for the pleasure and recreation which he affords our families, and in these times of high prices it is quite desirable to discuss the cheapest manner of keeping him. Chas. Ellis.

Lithographs of Stock.—Messrs. Lewis & Underhill, engravers of this city, have sent us proof copies from drawings on stone by Page, of a number of valuable Short-Horns owned in this State, Connecticut, Canada, &c.—among them representatives of Hon. David Christie's herd, including his last year's importations—Mr. Thorne's 6th Duke and 3d Duchess of Thorndale—Mr. Sheldon's Imperial Oxford and 1st Duchess of Geneva,—also several head owned by Mr. Ashworth and Dr. Sewall of Quebec, Burdett Loomis of Connecticut, John Snell and others in Canada West. A Galloway heifer from the herd of Col. Denison, Toronto, is a nice little beastie of her kind. We have often had occasion to refer to the felicity of Mr. Page's pencil, and have never had a series of portraits from it executed more artistically, or so far as we are able to judge, with greater fidelity.

HORTICULTURAL WORK FOR JUNE.

The growth of weeds should be constantly prevented. Keep the soil perfectly clean and mellow wherever young trees grow. Mulch the surface well around newly transplanted cherry trees, to prevent the common disaster of their dying at midsummer. Mulch other young trees, where the ground cannot be cultivated to advantage; but remember that the best mulching, in most cases, is the coating of fine pulverized earth made by constant cultivation—especially where this can be accomplished by horse power.

Continue to rub off the starting shoots on the stocks of fruit trees that were budded last summer or grafted this spring, and tie up the new shoots where they need it. It is not yet too late to stake young trees in the nursery row, to render them straight.

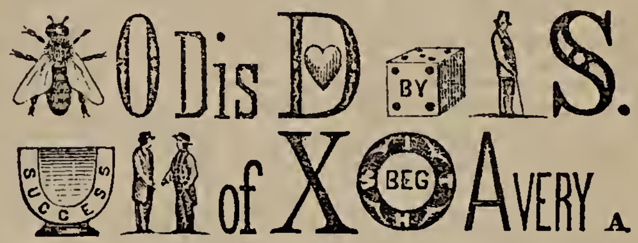
INSECTS, &c.—Continue the destruction of the curculio, as described last month—a common reason of failure is to discontinue this attention too soon, and before all the stragglers have been killed. Watch for the borer at the foot of apple trees, and kill all that can be discovered, whether those that have already entered deeply into the wood, or such newly-hatched ones as are found only at the surface. Examine peach trees for the peach-grub; as these always remain in the bark they are easily followed with the point of a knife, and the grub will always be found at the extremity of their burrow in the bark. Cut off the twigs from plum trees as soon as they show the first indication of the black knot. If this is promptly and unremittingly attended to, trees may be kept quite clear of them, and the operation proves unsuccessful only where it is neglected or left until too late. Aphides should be destroyed when they first appear, as directed last month. Straggling caterpillar nests that have escaped attention should be thoroughly destroyed. The gooseberry and currant worm, or slug, must be very closely watched at its first appearance; it may be killed by a daily application of well powdered, water-slaked, fresh or caustic lime—or better by dusting the leaves with white hellebore—the rain washing it all off before the fruit becomes fully ripe, and thus preventing any danger in using it. Fire blight in the pear is an uncertain and formidable disease—the best remedy is to cut the affected branches far back on its very first appearance, burning or burying the limbs—and to plant out two more trees for every one that dies of this disease.

STRAWBERRY BEDS will bear larger fruit and heavier crops if kept moist in dry weather. This may be effected by regular and moderate irrigation, or by copious watering each evening. Or, on a larger scale, nearly the same result is attained by mulching well between the rows with fine cut grass or soft straw chopped about two inches long.

SHAPING THE HEADS OF YOUNG TREES.—It is now an excellent time to finish a permanent form to the heads of young trees, whether in the nursery row or in young orchards. If done in season, this work may be mainly effected by rubbing off unnecessary young shoots at their first starting, or at most, by cutting them out with a knife, so as to leave them equally distributed and without crossing. Thin out unnecessary shoots on young dwarf pears, and pinch off long shoots that are taking an undue lead of the rest. Strong growing grapevines should be well attended to; and unnecessary shoots which cause a dense mass of foliage should be taken out, so as to leave strong ones at even distances. Continue to thin fruit on young trees, where they are likely to overbear, removing all defective specimens and leaving the smoothest. Shorten back the new shoots on the blackberry, to give them a handsome form and to increase fruitfulness.

Stirring the soil and destroying weeds are the chief labors of this month.

Illustrated Rebus---No. 15.



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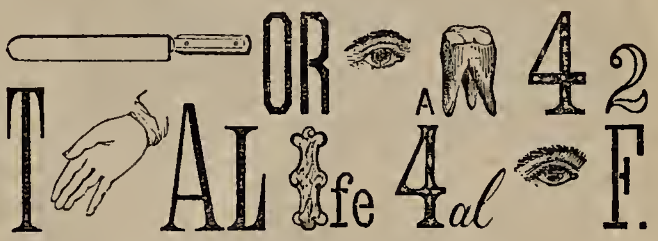

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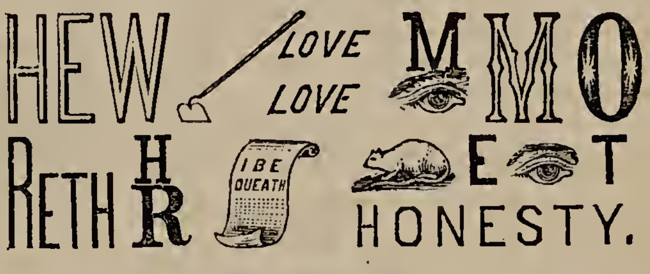
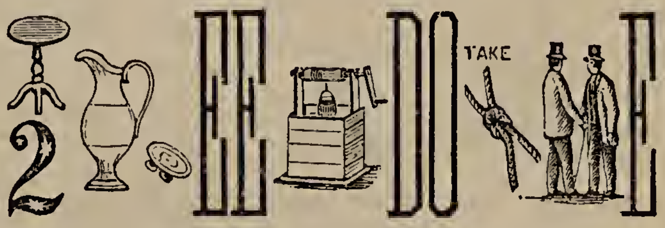


Illustrated Rebus---No. 18.



☞ Answers next month.

ANSWERS TO ILLUSTRATED REBUSES.—No. 11. "The great enemy of the plum (plumb line) is the curculio" (cur-q *leo*, or lion.) No. 12. "Honesty is the best policy—*On S T is the best Poll (parrot) I see.* No. 13. "Those who are about to build should first estimate the whole expense." (Those who are [about] 2 bill-d, s-hood firs-t s-team-8 the whole x-pense.) No. 14. "Landscape gardening and engineering is a fascinating kind of business."

Northern Farmers Emigrating.—A Boston paper says:—"A gentleman who returned a few days since from the eastern shore of Maryland, stopped at a hotel in a small town in that locality, and found thirty-six farmers from the Northern States who were there for the purpose of purchasing farms. In some cases $80 an acre was paid for farming lands in Maryland and Delaware. This is, we believe, but the advance wave of that tide of emigration which there will be not only to Delaware and Maryland but to Virginia and the other Southern States, when peace shall have been declared."

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1,000	Silver Ice Pitchers,............	20.00 to	50.00 each.
2,500	Silver Syrup Cups with salvers,.	20.00 to	50.00 each.
5,000	Silver Goblets & Drinking Cups,	5.00 to	50.00 each.
3,000	Silver Castors, ...	15.00 to	50.00 each.
2,000	Silver Fruit, Card & Cake Baskets	20.00 to	50.00 each.
5,000	Dozen Silver Tea Spoons, ...	10.00 to	20.00 doz.
10,000	Doz. Silver Tablespoons & Forks	20.00 to	40.00 doz.
250	Gents gold hunting-case Watches	50.00 to	150.00 each.
250	Ladies' Gold & Enameled Hunting-Case Watches, ...	35.00 to	70.00 each.
500	Gents' Hunting-Case Silver Watches,.....................	35.00 to	70.00 each.
200	Diamond Rings,................	50.00 to	100.00 each.
5,000	Gold Vest and Neck Chains,....	4.00 to	30.00 each.
3,000	Gold Oval Band Bracelets,......	4.00 to	8 00 each.
5,000	Jet and Gold Bracelets,.........	6.00 to	10.00 each.
2,000	Chatelaine Chains and Guard Chains, ...	5.00 to	20.00 each.
7,000	Solitaire and Gold Brooches, ...	4.00 to	10.00 each.
5,000	Coral, Opal & Emerald Brooches,	9.00 to	8.00 each.
5,000	Mosaic, Jet, Lava and Florentine Ear Erops,...............	4.00 to	8.00 each.
7,500	Coral, Opal and Emerald Ear Drops, ...	4.00 to	6.00 each.
4,000	California Diamond Breast pins,	2.50 to	10.00 each.
3,000	Gold Fob and Vest Watch Keys,	2.50 to	8.00 each.
4,000	Fob and Vest Ribbon Slides....	3.00 to	10.00 each.
5,000	Sets Solitaire Sleeve Buttons, Studs, &c.,...............	3.00 to	8.00 each.
3.000	Gold Thimbles, Pencils, &c., ...	4.00 to	6.00 each.
10,000	Miniature Lockets,.............	2.50 to	10.00 each.
4,000	Miniature Lockets, magic spring	10.00 to	20.00 each.
3,000	Gold Toothpicks, Crosses, &c.,.	2.00 to	8.00 each.
5,000	Plain Gold Rings, ...	4 00 to	10.00 each.
5,000	Chased Gold Rings, ...	4.00 to	11.00 each.
10,000	Stone Set and Signet Rings,....	2.50 to	10.00 each.
10,000	California Diamond Rings, ...	2.00 to	10.00 each.
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6,000	Sets Ladies' Jewelry—Cameo, Pearl, Opal and other stones,..	4.00 to	15.00 each.
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Send 25 Cents for Certificate.

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Messrs. Arrandale & Co. have long been personally known to us, and we believe them to be every way worthy of public confidence.—*N. Y. Scottish American Journal, June* 11, 1864.

We have inspected, at the office of Arrandale & Co.'s Agency for European Manufacturing Jewellers, a large assortment of fashionable and valuable Jewelry of the newest patterns. We also noticed a large quantity of silver plate, and understand that the whole of these newly imported articles are to be disposed of on a novel principle, giving great advantages to buyers, and affording extensive employment to agents. We know the firm in question to be very respectable and thoroughly worthy of public confidence, and recommend our friends to read their advertisement.—*N. Y. Albion, September* 3, 1864.

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EMPLOYMENT FOR LADIES.—The most eligible and profitable employment we have heard of for ladies, is the sale of Certificates for the Great Distribution of Arrandale & Co. A lady of our acquaintance has been very successful in this way, not only in filling her own purse, but also in doing a good turn to those to whom she sold the Certificates, as will be seen by our advertising columns. Gentlemen can also be thus engaged.—*N. Y. Sunday Mercury, August* 14, 1864.

In our columns the reader will find an advertisement of Arrandale & Co.'s Gift Distribution of watches, jewelry and silverware. In payment of that advertisement we received several sets of the jewelry advertised, and we are warranted in saying that both in finish and quality, they exceeded our expectations. They turned out to be just what they had been represented.—*True Democrat,* (*Lewiston,*) *Aug.* 17, 1864.

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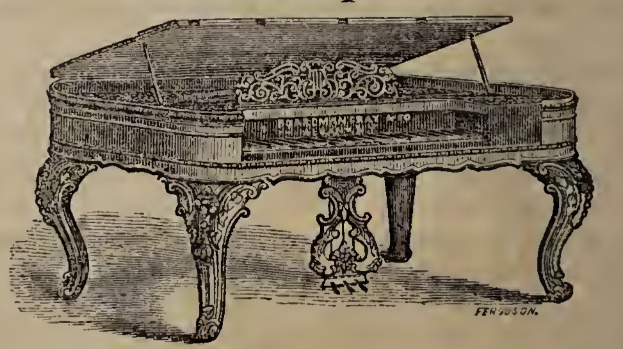

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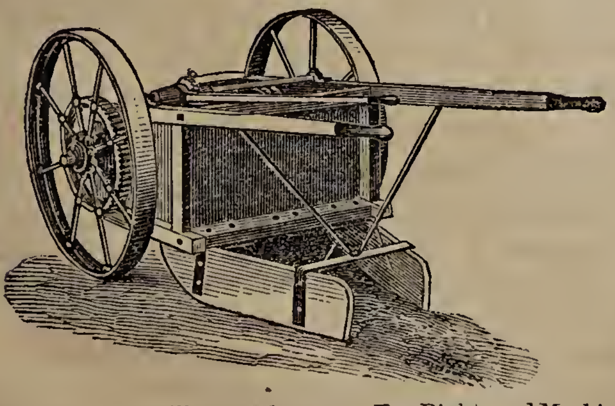

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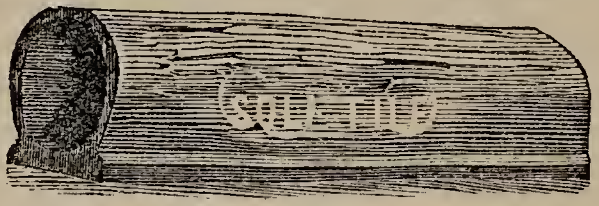

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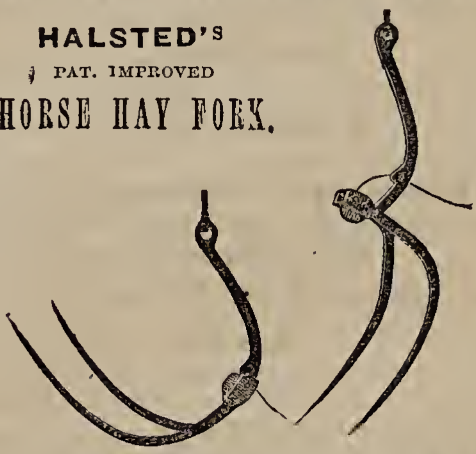

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The above fowls are warranted to be second to none in New-England, they having taken the first premium whenever they have been offered on exhibition. Address I. K. FELCH,
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TO HOUSE-KEEPERS.—I will send "*The Young Housekeeper and Dairy Maid's Directory*," which contains the whole art of Making Butter and Cheese, and two valuable medical family recipes, to any address free of postage. for the small sum of 50 cents. Address Mrs. E. A. CALL.
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THE CULTIVATOR

THIRD] TO IMPROVE THE SOIL AND THE MIND. [SERIES.

VOL. XIII. ALBANY, N. Y., JULY, 1865. No. 7.

PUBLISHED BY LUTHER TUCKER & SON,
EDITORS AND PROPRIETORS, 395 BROADWAY, ALBANY, N.Y.

TERMS—EIGHTY CENTS PER YEAR—Ten copies of THE CULTIVATOR and Ten of the ANNUAL REGISTER OF RURAL AFFAIRS, with one of each free to the Agent, Eight Dollars.

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"THE COUNTRY GENTLEMAN," a weekly Agricultural Journal of 16 quarto pages, making two volumes yearly of 416 pages, at $2.50 per year, is issued by the same publishers.

Our Prize Essays.

THE TURNIP AND ITS CULTIVATION.

BY AUGUSTINE MATSON OF ONONDAGA COUNTY.

SOIL.—Almost any soil, on which we should have reason to expect a fair crop of corn, is good enough for turnips. But they are more particularly adapted to some soils than others. I have raised them on quite a variety of soils—almost all except a stiff clay. My conclusion is that a sandy soil is best. I can raise them at a less cost per bushel, and they are generally of a better quality.

Last season I sowed them on a side-hill and also on a small strip of rather wet and level land at the bottom. The piece embraced quite a variety of soil—gravel, sandy, sandy loam and clayey loam were each represented. The yield was not very dissimilar on the different parts except on the wet and level strip at the bottom; here the turnips were small and wormy. Those on the sand and the sandy loam were a little larger it was thought—but the great difference was in the quality. The part which was sandy gave smooth turnips, having smaller stalks and fewer small roots, and the quality was so much better that we soon learned to select them for the table.

I have raised them on new ground with good success; one of the best and the very cheapest crops of them I ever had grew on new land, without any manure.

A clover sod is good; as a general rule, the best for them. In my experience, I find that I get smaller tops and smoother roots on sod ground. One season I sowed most of my turnips after potatoes, which had been planted on sod, but on one side they extended on to sod ground—a very stiff sod. The tops of those growing on the sod were very small, and came almost direct from the top of the turnips; while those after potatoes gave a great growth of tops, with long and large necks to the turnips. There was also another difference: those grown on the sod were all sound, while many of the others were hollow. The yield was not as large on the sod; the ground was not as well prepared as the other. It was not plowed as early as it should have been to have made it a fair trial as to yield. The same kind of ground was left for flat turnips, and put in that state of preparation which it should have, and gave a large yield of as smooth, nice roots as I ever saw, and that too on a high and dry knoll. In over two hundred bushels not a wormy one could be found. I had already become satisfied that dry sandy soil was best for ruta bagas. I then became pretty sure that it was useless to take pains to get mucky ground for flat turnips. This was twelve years ago, and I have grown a few of them almost every year since, and always on dry upland, and with good success. I think they are more nutritious, and know that they will keep longer without becoming pithy when grown on upland.

MANURES AND THEIR APPLICATION.—What kind of manure shall I use, and how shall I apply it? The manner in which it is mixed with the soil makes more difference with the crop than either the kind or quantity. If green manure is to be used, it should be applied early in the spring, and plowed in, but not quite as deep as you wish to plow for the turnips. It is less labor to apply rotted manure; but if it has been in the yard unmixed with anything else, and scattered around exposed to the weather, it has lost a large part of its value. I had rather use green manure if it is not too coarse. I once used yard manure composted with swamp muck: ten loads of manure to seven of the muck. I let it lay one year, and then applied it to three-fourths of an acre of ground for turnips, putting it on the surface and harrowing it in. The grasshoppers injured some parts very much, but a half-acre of them gave four hundred and eighty-five bushels, for which I was awarded the first premium of the Oswego Falls Agricultural Society, in 1858.

I have used hen manure, trying it on a few rows, by sowing it in the drills or marks at the time of sowing the seed; also sowing broadcast on the ground after the seeds were sown. My conclusion was that the hen manure was worth more to me to apply to corn, than for turnips.

A few years ago, sometime in May, a man came to me saying that a horse of his had "died suddenly in the road up by Mr. ——," which was about one-fourth of a mile distant, and that he had asked for their oxen to draw the carcass away, but was refused. He applied for mine; I told him he could have them if he would draw the carcass to me, and back in the field where I should show him. He did so. I put two loads of swamp muck on the carcass, and over that say about a foot of sods. The whole lay until time to sow turnips the next year, when, after the ground was plowed, it was scattered over a radius of several rods, taking the place of three or four loads of other manure. This spot gave the largest ruta bagas I ever raised. I measured a square rod of the best, which gave at the rate of over sixteen hundred bushels per acre. The next season the ground was sown with corn for fodder, and this spot gave a better yield than ground otherwise manured. I have spoken of this not only to show the worth of such manure for turnips, but also in hopes it may, (if it shall be read,) deter some one from drawing the carcass of any animal they may have die off, to the woods or some ravine, and leave it to worse than waste. They might better go to their yard and draw off their best manure to the same place.

I have several times tried plaster on turnips, and have concluded that it increased the growth of the tops too much. I have bought no other fertilizers for them. In the question of applying any manure to ground for turnips, one idea should be prominent. Is it such as may be thoroughly mixed with the soil before time for sowing the seed? If manure has been plowed under, it should be brought to the surface again with the plow, which should run a little deeper than at the first plowing.

Preparation of the Soil.—It is my opinion that the cause of a failure or a partial failure of farm crops, is oftener found in a want of proper preparation of the ground, than lack of fertility. If a moment's thought be given to the smallness of the seeds of the turnip, the necessity for a thorough pulverizing of the soil will be seen. Here is the one great thing, without which all pains-taking and expense as to manure, the kind of soil, and sowing the seed, will be comparatively useless. And if any one fails, or will not listen here, he has little need to inquire as to harvesting or feeding. No after management can make amends. The after expense of growing the crop is greatly increased, but the desired goal will not be reached; and such an one will be ready to give up raising turnips. Two objects are to be, or ought to be, attained in the preparation of ground for turnips—the thorough mixing and pulverizing of the soil, which is of vital importance to the production of good crops, and the freedom of the ground from the seeds of weeds, which has a very great influence upon the cost of producing the crop.

I have plowed sod ground early in the spring, and plowed it again about three weeks before sowing, and then harrowed with intervals of three or four days. This course I like best if the sod is one that will get partially rotten, enough so that it may be made fine by the harrow.

If the sod is very heavy I would be sure to plow by the first of May, and apply the manure soon after, especially if it has foul seeds in it, and then frequent and thorough harrowings will dispose of the most of them. If any one will do this, and at the same time leave a small piece unworked until about time for sowing the seed, and then make it as mellow, or, if he can, mellower than the other part, he will be able in some degree to see the advantage of having the ground clean. If the ground is free from foul seeds, the after expense of the crop will be but trifling. I have seen crops of turnips lost, simply because the grass and weeds had got so much the start of the young plants that they could hardly be found among them. If the ground is full of foul seeds, the turnips must be hoed soon after coming up; and this, owing to the weather, cannot always be done. If they ought to be hoed, we will say, on Friday or Saturday, and rain and wet ground hinders until the fore part of the next week, the expense of tending the crop will be increased twofold or more. It is a risk too great to be incurred; I know that it can be avoided by a little painstaking. After the ground has received its last plowing, I usually use the harrow and cultivator alternately. If the ground is at all lumpy, I get on the harrow and make the team walk smartly, letting them stop enough so the labor shall not be too severe. This is the only way I have been able to satisfy myself in getting it mellow. Some may have better tools; if so, well; but the great majority of those who ought to sow at least half an acre of turnips this year, will have only plow, cultivator and harrow to fit the ground, and hand-hoe with which to till it. I can make them one of the best crops of the farm with only these tools, and so can others, if they will try.

Two years ago wishing to sow a few more turnips than I had made preparation for, I mowed about one-fourth of an acre of grass about the 20th of June. It was the second year from seeding with clover and timothy. I took off the hay, plowed the ground, then put on a thin coating—say three or four loads—of hog manure, which had been mixed with chip dirt and allowed to rot. I then harrowed thoroughly and sowed to ruta bagas, and had a good crop of sound and very fine roots. They were better in quality, and almost as good in yield, as those which I had sown some days earlier on ground which had been plowed twice.

A few years ago a neighbor helped me harvest turnips, and was so greatly pleased with the appearance of the crop that he said he would surely raise some next year. He prepared a piece of new ground for them, and wished me to come and sow them for him the next day in the afternoon. I was hindered, so that it was quite late in the afternoon before I got there. They had sown the turnips. I saw plainly that they would not have to get help to harvest the crop. One day's work with a good smart team on that three-quarters of an acre of ground, would have put it in condition to yield from 400 to 600 bushels of turnips; as it was, they got but few. If I were to give any rule, I would say make the ground what you would call mellow enough for wheat or barley, and then work over the soil as many more times as the seed of the turnip is smaller than a grain of wheat.

Sowing.—I make my rows two feet apart. I use a marker made by nailing runners on a board; the runners should be a little over two feet long, and as much as six inches in width. I have used a twelve foot board which gives seven runners and enables me to make marks for six rows at a time. The best handle is made by bending a small tree so that when in a half circle it will reach high enough to be conveniently taken hold of; up to the waist is about right. Make holes at an equal distance from the centre, and fasten the ends in them. I fasten my horse by boring holes in the front of the second runner from each end, and with pieces of rope or chain lengthen the traces of the harness, so the horse may walk before the marker. I have often marked my ground alone, but it is better generally to have some one lead the horse.

Do not make a deep mark; all it needs is one that will show plainly. As to seeds, I generally buy them; I have raised some, but the yellow birds are quite apt to harvest them for me before they are ripe. I buy half or quarter pound papers at the store, and have always found them good and genuine, except in one instance I found a paper of seeds producing sweet turnips, which I bought for ruta bagas.

Now we are ready for sowing. Do not be envious of the man who has a drill, for if it sows only one row at a time, we can get along about, or quite as well, without it. Empty a paper of seeds in a basin; take that in one hand, and as many of the seeds between the thumb and finger of the other hand as you can easily hold. If the wind does not blow, you may walk erect, carrying the hand which sows the seed over the mark and keeping up a grinding motion with your thumb and finger until the seeds are about out, when the remainder can be dropped and more taken. Do not walk slow; you may walk faster than your usual gait, if you are in a hurry; I have sown and bushed in three-fourths of an acre after supper. I believe the papers usually say sow one and a half pounds per acre; I usually sow a little less. I had rather it would be less than more. To cover the seed I take a light scantling—a picket rail is good, and bore holes once in about 18 inches, and in each of these fasten a small brush—a small tree is best, as it will usually be straighter, and let a horse draw this over the ground, and it will cover the seed enough. I was once just able to finish sowing as a heavy shower came on. I gave them no covering except such as they got during the shower, and they needed no other. On new land I have sown them broadcast, the stumps being in the way of making marks.

As to the time of sowing the seed, I have done it as early as the 5th of June and as late as the 10th of July, but have come to the conclusion that about the last of June is the best time in this latitude—the north part of Cayuga Co. The earlier sown are more likely to be coarse grained and woody.

CULTIVATION.—If the ground is clear the plants can grow until they begin to put out middle leaves before hoeing, and they will then be out of the way of the fly, so that they can be thinned as we wish them to stand at the first hoeing. Soon after the middle leaves begin to grow they should be hoed and thinned. I thin to about 12 inches. If in some places, they are a little farther apart, I leave the next two a little nearer together. If the tops grow no larger than I wish them to, they are not too close. If there are any spaces where plants are needed, dig a little hole with the corner of the hoe, and then select a plant which can be spared, and strike the corner of the hoe under it and lift it out, and put it in the hole you made, press down the dirt a little with the hoe, and it is set out, and in much less time than it takes me to tell how I do it. I have had them injured some by the fly, but never wholly spoiled. I am inclined to think that good thrifty plants are the best protection against the fly.

As to how much hoeing I give them—I keep them them clean, no matter how often I have to hoe them, and if it is grassy, endeavor to let the grass and weeds no more than just peek out of the ground before paying them a visit. I have raised them with only one hoeing. The best crop I ever had was hoed only once. It is very rare to have to go through them more than twice. It is not necessary to pay any attention to the looks, only to cut out such plants as are not wanted, and cut up any grass and weeds that may be starting. The plants will take care of themselves if nothing crowds them. I never hill them up any. If they lop down when first hoed, never mind; they will soon straighten up and go ahead.

I presume a horse-hoe would be good, but I have always raised them without. But labor is becoming so dear I must try one. But whether I had one or not, I would have turnips.

HARVESTING.—I do not generally harvest them before about the 1st of November. I take a very light hoe and grind or file it sharp to cut off the tops with. I cut the tops before pulling. I strike so as to bring the tops between the rows, the tops of two rows together. I then pull the tops together with a hook and put them in piles. This keeps them clean, fit for feeding. I pull the turnips with a hook; I use the same with which I dig potatoes. If the weather is pleasant, they will be fit to put into the cellar or bury the same day. But it often happens that the weather is so wet and stormy that they will get wetter instead of drying; I then put them in piles of from five to six bushels, each piled as high as I can handily, and on the the top of the piles put an armful of tops. Do not let the tops come to the ground, as we want the air to circulate through the pile to dry them out. The tops will keep them from getting wet. When I bury them I take places where the water will not settle in the hole, and dig either in a trench or circle, so that it will contain as many as I wish to put together and not come more than a foot or two above the ground. I prefer a a trench, as it is easier dug, easier covered, and the hole is more easily filled with dirt the next spring, and that is making it easier all around, though there is one more advantage—it is much more convenient taking out a part of a pit at a time, when they are buried in a trench. I have put as many as an hundred and twenty-five bushels in a single trench. I put on but little dirt, say about six inches. It is better to have them freeze a little than to have them warm enough to grow. When I have had only my cellar under the house, I put in only a few loads when I gather them, and take out from the pits during the winter when there is occasionally a warm day.

FEEDING.—I feed them to all of my stock, but mainly to cattle and hogs. I have fattened beef on them, and know that they are cheaper than meal. The only drawback is the labor of feeding. I will here say what I ought, perhaps, to have said before, that I prefer the yellow Swede or ruta baga to any other which I have tried; I have made no experiments to test their comparative values, but judge by the preferences which the the animals show to which I feed them. The first requisite is to have them clean; I do not wash them, but cut off the roots if they have any. To cut them, I use a spade ground sharp; I have a box to cut them in, open at one side, so that I can shovel them off conveniently. After a little practice one can cut them very fast in this way. If the roots are cut off, and also the stalk, if they have much, they can be fed to cows giving milk without injury to its quality. For working oxen I consider them invaluable. They are cheaper than grain, and for that use better. Oxen fed on turnips are not much troubled by the heat.

A man looking for a yoke of oxen, once came where I was breaking up a stiff sod, on a very warm day; he was surprised to see how they walked along, paying no attention to the very oppressive heat. He wished to buy them, but thought we asked too much. He went on, but came back and took them. He was disappointed in them; they did not stand the heat as well as he expected. The trouble was he had no turnips for them. When cattle become accustomed to them, there is no food they seek with such avidity. I feed some to my horses, generally giving them some once a day. They seem fond of them; they prefer them to carrots. I winter my store hogs mainly on them. For hogs I cut them finer than for cattle; I have tried cooking them for hogs, but like feeding them raw better. If hogs have as warm a place as they ought to have, they will grow finely, fed almost entirely on turnips. If farmers would feed ruta bagas to their hogs, there would be less complaint about losing their pigs than there now is. If hogs had not been used to eating them, I would give them but a few at a time at first. When they have learned to eat them, they relish a few of them occasionally until they are fully fattened. Calves fed a few turnips each day, will do better than if fed with meal. If fed enough of meal they might get fatter, but with the turnips they will keep in good order, and grow faster. As to feeding sheep with them, I cannot speak from experience, but see no reason why they should not be valuable.

As to the cost of producing them, it will of course vary very much in different seasons. The cheapest crop of them I ever raised grew on new ground, and if the space occupied by stumps were taken out, it would be as large a yield per acre as I ever had. I sowed 90 rods broadcast, using half a pound of seed. I sowed them the 29th day of June, and soon after they came up spent one days' work striking here and there with a hoe, to cut out plants where they were too thick, and to cut out now and then a weed. This was all the cultivation they had. With the help of a man and boy, I pulled all of them and got them buried in one and a half days. The piece gave about 450 bushels. After the seeds were sown, the cost was little if any over one cent per bushel.

I kept an account with the crop I raised twelve years ago, and found that after paying for use of land and all labor, that I had grown the crop and secured it at an expense of about five cents per bushel. My crop of 1858 cost me about seven cents; the next year they did not cost me quite as much; some seasons they have cost perhaps as high as ten cents, but I believe they have not cost me after paying for the use of the ground, on an average one year with another, over six cents per bushel, and the greater part of that expense is for team labor in preparing the ground, allowing them the same wages I would have to pay if I hired them, and owing to local causes it costs more here than in some localities.

I have always counted my crops of turnips by baskets, and my baskets have held a little over a bushel, and generally the baskets would not be emptied until no more could be piled on. I have sold a good many for table use, and have ever found them to hold out after taking out all the unpromising looking ones. Until this season I have lived near enough to Fulton and Oswego to have them pay well as a market crop. One acre of them is, in my estimation, worth eight or ten acres of hay in wintering stock. In such seasons as the past has been they are particularly valuable. If our winter proves a severe one, there are many who would rejoice if a small part of the labor they have spent in growing a nasty weed had been used in growing a crop of ruta bagas.

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HEDGES.

Messrs. Editors—I can with confidence recommend the honey or thorn locust as a valuable material for hedges—the best as to utility, and indeed for beauty, of anything I have seen tried. It is also very hardy, and will grow on any soils. Thirteen years ago this spring, when I came on to the place where I now reside, there were two hedges growing partly on a thin gravelly soil, and residue on deeper loam. One was entirely of the thorn locust, and grown to some twenty feet high. I had that cut down to four feet high, leaving a timber fence similar to those represented by the venders of the white willow, which, with a few stakes, made a very good fence. In the winter following we had a deep snow, and in spring found a few rods of it barked by the mice. Yet that did not injure the hedge, for from the injured trees the sprouts came up near the ground, and the old stalks died and hardened, and remained until the new growth supplied the place, so that the fence was decidedly improved, both in appearance and utility.

The other hedge was composed of one row of the same locust, and another row, about 2 feet from that, of the common thorn. On this the locust had grown 12 or 15 feet high, and the thorns 4 or 5 feet. I had them cut to about 1 foot from the ground. Not knowing how to trim a hedge, I neglected both until 2 or 3 years ago. Since that they have done well, but the thorn is a puny affair beside the locust, which makes a perfect man fence, and a good one for turning stock and swine. I am so well satisfied with this experience that I have planted 200 rods this spring, and a little last fall.

Then the inquiry came as to the best manner of constructing the hedges, and first what is the character and habits of the tree? It bears long pods, with some 15 beans in each pod, of which about 1-15th or 1-20th are large, three times as large as the others. The pod has a honey sweetness inside, and sheep will devour them when not too hard. Why not run them through a cutting box and soak them for sheep or swine? Are they not the very husks the prodigal son disputed for with the swine? But hold! I have the Natural History of the State, how; fortunate but few of the farmers can have that treasure. So I pondered over the huge quarto, and found the two vols. on botany, with the sprig of a tree on the cover, turned to the index, found locust, vol. 1, page 165, which described the common locust tree (Robinia pseudacacia.) Then turning over to page 166 I found this important description: "In the western part of the State the R. viscosa is almost naturalized in some places, being used for hedges."

This was printed in 1843—almost naturalized. Upon that I went straight to measure one of the many trees I have apparently of the same age, and found the circumference to be 8 feet and 1 inch, and about one-third of the outside of the trunk at the ground decayed from old age, and thus ended my botanical research.

So being without guide, I built fences—first setting posts, then throwing up a ridge about 1½ feet high, sods inverted on outside, mellow earth within, and two boards to each pannel, to complete the present fence, and a bed for the hedge. Then last fall I planted some of the beans fresh from the pods. They have not yet vegetated. Early in the spring I planted another piece from the pods which lay under the snow all winter. Part of these have grown—perhaps about the proportion of the large seeds to the small ones. After that, planted again, having soaked some in hot water, so as to make the pods soft, for the convenience of shelling. But very few of these have grown, and occasionally some have started lately (May 27th.) As a last experiment, after shelling, I poured on boiling hot water, and placed them near the kitchen stove, and let them remain until sprouted, which was some four or five days; the large ones sprouted first. I then planted until I filled my beds. These have grown well. The residue so soaked and sprouted I put into a box of earth and placed out-doors, and to-day have transplanted about 40 rods. They have a long tap root, about 6 inches in length, and those set out in the morning have not wilted during the day.

Since the above was written (May 29th) I have discovered many coming up in the highway where the ground is beaten hard, and many in the ditch beside the roads. I have taken some from the road, which have a short root, so I conclude their habits are like the ash—have a tap-root where the ground is deep and mellow, and a spreading root when necessary. They have a strong vitality. Z. A. Leland.

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Effects of Buckwheat Straw on Animals.—A correspondent of the Rural New-Yorker writes as follows: "Buckwheat and buckwheat straw create, when fed to them, on all the domestic animals a variola-like cutaneous eruption, called buckwheat eruption, appearing on all the spots poorly covered with hair or wool—around the mouth, on the ears, and inside the hind legs. This disappears without further injury as soon as the food is changed." Will any of our readers who have fed buckwheat or buckwheat straw, give us the results of their experience?

Laying out Curves for Roads and Walks.

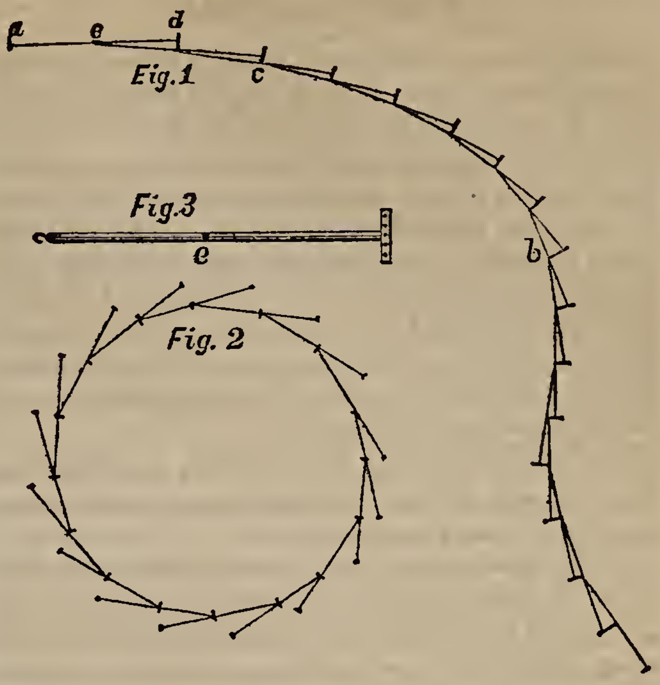
There are two prominent reasons why roads and walks should be laid in curves: the first is utility, and the second is beauty. Unless the surface of the country is perfectly level, a public road should vary from the straight line, in order to avoid the ascent of hills. Unfortunately, in many places, this has not been properly attended to. We could point out a number of instances where a slight deviation from the right line in a public highway, would have prevented the necessity for every carriage and loaded wagon ascending a steep hill. In one case, familiar to us, the ascent is ninety feet from the level; a deviation of twenty rods, with a lengthening of the road of not more than five rods, would have entirely avoided the hill. Fifty teams on an average pass this hill daily, making 15,000 laborious ascents annually, simply because the man who laid out the road did not exercise a few minutes' thought. Several years ago a turnpike road was made from Worcester to Boston, three miles shorter than the old road, but passing over instead of avoiding the hills. But very few travelled it—they preferred the longer and leveller route, and the enterprise proved a failure. A humbler illustration occurred on the farm of an acquaintance who made a smooth farm and cattle road over an ascent, but leaving a portion of the enclosed space more nearly a level. His cattle soon found out by practice that more exertion is required to overcome gravitation in walking up and down the hill than by passing on the rougher surface around it; they therefore selected a path for themselves very nearly on a level, and where a skillful engineer would have placed it, and after a while wore it smooth by frequent passing.

In a hilly or undulating country nothing of the kind can be more agreeable than the constant deviation to the right or left, in graceful curves, on a nearly level, well laid out and well-constructed road. On the other hand, travellers have often remarked on the tiresome sameness of a long, straight road over level country.

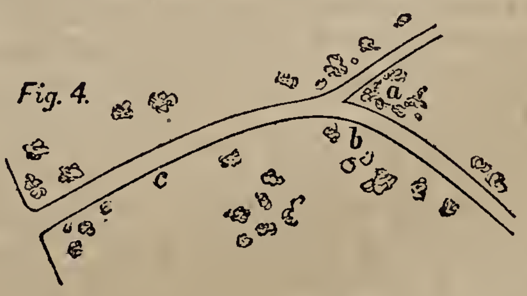
In laying out ornamental grounds this remark applies with still greater force. Straight walks have a stiffness entirely discordant with the beautiful and curved forms of nature, and the old geometric school has consequently given place to the modern, more natural, and more graceful style.

A well-laid out and smoothly kept walk will impart character and finish to any grounds, even if the rest is in rough condition. But a badly curved, broken-jointed, ill-dressed walk will spoil the appearcnce of the finest landscape garden in other respects.

Novices are often puzzled for definite rules for making curves. In the simpler cases it may not be necessary to draw plans on paper; but where this is done the work may nearly always be accomplished in a better manner. A well-drawn design is transferred to the grounds by measuring the several parts. But still it is desirable, in finishing the details, to adopt some rule for making true and easy curves. The best mode is to provide a large number of short wooden pegs and stick them in the ground, at regular distances, deviating from the straight line a greater or less degree according to the length or shortness of the curve. Fig. 1 exhibits this process where the successive and regular deviations form the curved line desired. At *c* these deviations are slight and the curve is longer; at *b* they are greater and produce a shorter and more abrupt curve. A perfect circle may be laid out in this way without the usual resort to a line and centre-pin, fig. 2. A land surveyor may thus run a circle miles in diameter by successive and uniform deviations at each observation taken at regular distances.



We have found the following contrivance a simple one, and to answer a good purpose. Take a light wooden rod, (fig. 3,) say two yards long, with a small wire hook at one end, a slight notch on each side at the middle, and a graduated cross-bar at the other end. Small holes are bored into this cross-bar at regular distances, for the insertion of a pin. Suppose we wish to lay out a walk, as shown in fig. 1, commencing with the direction *a. e.* Place the rod just described *a. d.* in this direction, and stick in a pin at *a.* and at *e.* The deviation of the third pin at *d.* can be accurately determined by making a few trials. When thus determined, set the pin in one of the holes of the cross-bar at the determined distance from the centre, and insert a corresponding pin into the ground. Then slide the rod a yard forward, placing it against the two last pins and repeat the process. So long as this process is continued it will form a uniform and perfect curve. If, however, it is desired to pass gradually from a long to a short curve, remove the pin in the cross-bar farther from the centre at each successive station, and the result will be shown at *c.* and *b.* in figs. 1 and 4.



After some experience, the ease and facility with which curves may be thus extended over grounds in all directions, will be surprising to any one who has not previously tried it.

Curves in roads are sometimes angular and unpleasing, because laid out merely by guess. By adopting the rule just given, on a more extended scale, a perfect form may be attained, even if the successive stations are merely measured by pacing.

WILD FLOWERS.

There are no ornamental plants that can exceed in beauty some of our wild or native flowers. Those who have rambled through dark woods or wild, rocky glens, have often witnessed the striking effect of white, brilliant red, or deep blue colors, contrasted with dark rocks, or the shade of deep foliage. Many of these, when removed to gardens, and made to grow in thick masses, are even improved in appearance ; but the effect may be even finer if they are allowed to grow more in accordance with their native habits on dark shaded rock-work, or in the wilder parts of the grounds under festoons of climbers.

We were accustomed in early days to pursue our rambles and collect botanical specimens in dense woods and a dark neighboring glen, where vegetation had all the wildness of the original forest. After the lapse of many years, on returning to this spot, its charms had all disappeared, the trees had been cut away, and cattle were browsing among piles of brush, thistles and burdocks.

Now cannot men of taste make an effort to preserve a portion of the original beauty of the rougher parts of the country ? Glens and hillsides, and rocky precipices are of little use to the farmer, and might be retained with their wild growth and tangled shrubbery—their ferns, mosses and beautiful flowers. A few smoothly cut winding walks would render such localities easily accessible, without diminishing their characteristics. A friend who possesses a beautiful country place within a few miles of one of our large eastern cities has succeeded in retaining several acres of wood on a broken surface, and all the improvement he has made consists in carrying a few smooth and graceful walks through its different parts—so that the visitor passes in the dark shade, ascends easily the steep precipices or reaches the rustic seat beside the cascade. All this is attended with no expense whatever except to keep the walk in order. Horace Greeley has urged the importance of preserving from the axe and the saw-mill the extensive wild region in the northern part of this State, known as John Brown's Tract. Whether the preservation of so vast a region is desirable, many will doubt ; but every person of taste must agree with us in retaining smaller portions wherever practicable. Those who have visited Trenton Falls have been struck with the peculiar charm imparted to that place by retaining every feature as it has existed for centuries. They can easily imagine the defacement and desolation which saw-mills, saw-logs and piles of lumber would present.

Our object in part at the present moment is to call attention to our ornamental wild plants, which are fast disappearing with our forests. If they cannot be retained where they originally grew, let them be transferred to cultivated gardens. To effect this purpose, the best ones should be selected and marked while in bloom. It is now too late in the season for the earliest, but a memorandum may be made for another spring. Among the finest as well as earliest, are the *Hepatica* and *Claytonia*. The former of these presents flowers of almost endless shades from pure white to deep pink and purple. A judicious mixture, placed in broad masses in garden beds, affords one of the best floral ornaments of early spring. The *Anemone thalictroides* immediately succeeds this, and is distinguished for its delicacy and handsome white flowers. The large white *Trillium* and the *Erythronium* are a few weeks later. The *Phlox divaricata*, like the Hepatica, presents a great variety of shade in color, and if the plants are now marked, they may be taken up as soon as flowering ceases. The beautiful and showy *Aquilegia canadensis* appears nearly at the same time. Among the later bloomers are the delicate *Campanula rotundifolia*, the *Cymbidium pulchellum*, the showy *Orchis fimbriata*, the *Cypripediums*, the scarlet *Lobelia*, and the *Lilium philadelphicum* and *L. canadense*. The *Asclepias tuberosa*, for large beds for brilliant display on large grounds, is scarcely equalled in the latter part of summer. The flowers vary from fine yellow to brilliant orange ; and if the plants, as they grow wild, are marked so as to give these different shades, they may be removed a few weeks later to the garden. In autumn, the *Liatris* and *Aster novæ angliæ* form large and showy masses of purple flowers —the latter especially, after growing several years, has been known to augment to a large stool, and to furnish a hemispherical mass of flowers five feet in diameter and four feet high.

Visit to a Stock Farm near Boston.

Messrs. Editors—Never before have circumstances so combined to keep the minds of Bostonians completety engrossed in the cares of business, as during the four years just past. There have been the excitements of the news-rooms, of the gold and stock exchanges, of the wool and cotton markets—not confined to particular classes of men, but all-pervading, all-absorbing. Our first thoughts when waking have been on the prospects of our forces capturing Petersburg and Richmond ; our second and frequently last thoughts, on the closing prices of gold and merchandize. Many of the causes of this unhealthy state of feeling are now but feebly felt or wholly inoperative. Our merchants will be able to visit the country sometime during the summer heats, and there enjoy the blessing of a pure atmosphere, without the corroding fear that their interests suffer in consequence. There are, however, many business men in this community, in easy pecuniary circumstances, who have not been satisfied with the excitements of the markets, but have fled, early in the day, to the green fields of the suburbs. Had I their sanction, I could mention the names of several gentlemen, who have spent their leisure hours, not only to their own profit, but to that of the whole community ; of several, too, who have never aspired to be millionaires, but who are more valuable citizens than many of our most wealthy merchants.

It is to the results of the labors of such an one that I invite the attention of the readers of your paper in this article.

A week since, while enjoying the hospitality of a friend in Lexington, Mass., my host kindly invited me to accompany him on a visit to the "Munroe Farm," which, he informed me, is an object of interest to the agricultural community. A few minutes' walk brought us to the barn and piggery. We spent a short time in examining a number of heavy draught horses and a small stock of Jersey cattle, all of which looked well and were in good condition. Passing through a side door, we entered a long shed, lighted by large glass windows in the roof. On either side of the passage-way are arranged pens for the hogs. Here are kept the animals used for breeding purposes, all descendants of stock brought from Chester County, Penn. Most of the sows had litters of pigs, each one of which appeared strong and healthy. Mr. MUNROE informed us that the sows raise an average litter of ten pigs, and breed twice a year. He does not claim that the Chester County cannot be excelled in several respects by other breeds, but that there is no other breed that has thus far fallen under his eye, that equals this in prolificacy and amount of pork produced with average keeping. Their quiet disposition is conducive to quick growth and speedy fattening. After weaning, the pigs are for sale, and thus far all the offering has been disposed of before reaching the age of four months. We were shown the last of two hundred pigs, born last autumn, all of which had been sold, and this one was only awaiting the orders of the purchaser

Passing on, we entered another building containing a steam-boiler and steam-chest. Here the food is prepared, and when cooked is put in a car which runs on a rail the whole length of the passage-way between the pens. Turn-tables are conveniently arranged at each end, one connecting with the track leading to the boiler-room, and the other with a side track extending under the barn to pens, containing a number of very promising shoats. The only food fed to the hogs here is swill, cooked in the steamer. Twice a week this is carried out from Boston by the farm teams. The hogs lay on a bedding of sand, and generally looked as clean as if they had just been washed.

I cannot remember noticing any unpleasant odor about the premises, and regret that time failed me to observe the means used for ventilation.

The sun, streaming through the large windows in the roof, gives to each animal when it wishes, an opportunity to bask in the warm sunshine, and doubtless this arrangement not only leads to early growth and acquisition of strength, but is a great preventive of ill-health and disease. Twice a week the pens are cleaned by throwing out that portion of the sand which has become soiled, and when necessary all is removed and the pens are whitewashed.

Mr. Munroe selects for the replenishment of his stock from the litters born in spring, and has several different strains of blood, sufficient to enable him to guard against close breeding.

At some distance from the buildings just described, stands a barn, the upper part of which is used for the storage of hay, and the cellar as a piggery. This we did not visit, but we were informed that there were kept a number of hogs of various ages, sufficient to consume a cord of slaughter-house offal per diem. This offal is contracted for near by, and is fed without preparation after the stomachs and intestines have been thrown out.

On our way back we looked into the stable where the carriage horses and breeding mares are kept. These all stand on clean sand; an excellent arrangement for the feet of the horses. Although this bedding is damp, none of the animals have caught cold during the long time the method has been tried.

As we came out of the stable the farm lay before us. This consists of about 35 acres, 30 of which compose a peat meadow, flat as a floor, and all grass land. This meadow is in the shape of a parallelogram, bordered on one of the long sides by a large brook. At right angles, and at distances of about thirty feet, tile drains have been laid, leading to the brook, the waters of which are supplied by the drainage from the meadow. The tiles are laid on a spruce board at the depth of about four feet, and the inclination is one inch to twelve feet. Wherever the land is wetter than usual, the drains are laid nearer together. Some idea of the water discharged can be got from the statement that in times of drouth, each stream is as large as a pipe stem.

Every autumn, a top-dressing of from six to eight cords of manure to the acre, is spread on the field. In many places the ground is so soft that nothing can be carted over it until it is hardened by the frost. Still this difficulty has been partially overcome by using shackles on the horses' feet. These are made of board, eight inches square, and are attached by means of thumb-screws. The horses soon get accustomed to them, and can draw almost as well with as without them. With them they can pull the cart where a man would sink to his ancles.

The manure used is from the stables and piggeries, and is, consequently, mixed with sand. When it is spread, he calculates that the ground is covered with this sand to the depth of half an inch. When spring comes it is not to be seen, but its effect in lightening the soil and increasing its porosity, is very apparent. Whenever it becomes necessary to plow the field, no doubt the owner will be amply rewarded by the superior condition in which it will be found. Soon after the meadow was put in grass, his workmen went over it and removed the weeds of every description. Now one day's labor of two boys is sufficient to keep the ground free.

And now to the crop! In the summer of 1863, there were cut, by actual weight, 120 tons, or four tons per acre. Last year, notwithstanding the drouth, 105 tons, or 3½ tons per acre. The latter crop was sold for $40 per ton.

We saw a patch of about an acre, excellently tilled, sown to carrots. The product will be fed to the horses and cattle.

Formerly, on one edge of the meadow three knolls were situated, two of which are now cut away, and the laborers are soon to commence on the third. These were composed of two qualities of sand, the finest quite similar in the size of its particles to common house-sand. At different times this is carted to the stables, where it is used for bedding.

If any of your readers have borne with me thus far, it is probable that they are ready to exclaim that this is "fancy farming." However this may be, there are not many who manage farms of a similar size and realize one-half the profit.

I have been told what I had already guessed, that the profit on the total investment is a very liberal one. To me it is a source of much regret that so few are disposed to follow in the footsteps of such men as Mr. Munroe, and thus reap the just reward of honorable labor.

Messrs. Editors, had it not been for the interest taken by prominent agriculturists in the system of farming just described, I should not have dared to trespass upon your columns. I cannot close, however, without expressing the hope that Mr. Munroe may yet find time to write a more detailed account for publication in the next State Report. F. A. F.

Boston, May 15, 1865.

A Ride on the Banks of Cayuga Lake.

Up to the present time the crops bordering on the Cayuga promise unusually well. The wheat is already in full head, and presents a dense and uniform growth. Meadows have been well watered by the spring rains, and grass is abundant. Corn is larger than usual for so early in the season, (June 12th,) some of the best crops being already a foot high. Tile-draining has been extensively practiced, the strong and tenacious character of the soil rendering it indispensable. Where a regular system of drains has been laid down, the fields present a uniform appearance, and the soil when cultivated is mellow and friable throughout. Where it has been neglected the crops are in uneven patches, and large clods cover the surface.

Large orchards have been set out in many places One farmer had transplanted forty acres in apple trees, giving them imperfect cultivation, or rather leaving large strips of weeds and grass next to the rows and plowing between. He had, however, mulched them, and they were doing tolerably well. A neighbor adjoining had set his trees in weeds and grass, and given them no further attention. They were struggling for a living, some of them with little prospect of success. On a small farm I observed a hundred standard pear trees, mostly of Seckel, which had been planted three or four years. The soil was naturally firm, dry, and rich, and had been kept clean and under cultivation. The present year the crop of potatoes had been planted among them, and quite recently they had been copiously mulched with the short grass cut from the door-yard. It is hardly necessary to say that this orchard was in the finest condition, presenting dark green foliage and vigorous growth of the shoots. Another pear orchard, similar in size, stood in grass, and "took care of itself,"—the trees were feeble in growth, and the foliage light green or yellow. The owner hoped that a part of them would "come to something." One of the finest pear orchards I have met with anywhere, is that W. R. Grinnell, Esq., at Levanna. He has about 2,000 dwarfs, and over 2,000 standard pear trees. Most of them were planted about three years ago, and nothing can well exceed their present beautiful appearance. Seventeen hundred were purchased in autumn at a neighboring nursery, heeled-in for the winter, and set out the next spring. All but five lived and flourished. Last autumn a thousand more standard pear trees were procured at the same nursery and transplanted in the spring. All of these, without a single exception, are growing finely. The field in which they were set was occupied last year as a meadow; the owner had not time to reduce the whole of this to fine tilth. He therefore plowed strips eight feet wide, leaving spaces of grass twelve feet wide between them—twenty feet being the intended distance of the rows. In the spring these plowed strips were made mellow and the trees planted, no crop occupying the plowed portions. They are easily kept mellow and clean, by means of a one-horse plow nearest the trees, and a two-horse plow more remote. The twelve feet strips of grass are to be cut for hay, after using what is desired for mulching the trees on the approach of hot dry weather.

The orchard caterpillar is very abundant here the present year. Those who have industriously and perseveringly destroyed them, have good orchards and a promise of a fair supply of apples. Those who have neglected them cannot expect much. One large orchard was observed to have nearly half the trees entirely stripped of foliage, about forty nests being counted on a single tree. The result is that no apples can grow where there are no leaves to furnish the food to them; and the injury to the trees themselves must be very serious—entirely checking growth for a time, and if they recover their foliage, the new shoots cannot mature properly before winter. When will owners be willing to devote half as much time to the destruction of pests and the general care of their orchards, as they do to the necessary cultivation of corn and potatoes—the product of the former when well grown being many times the more valuable.

Among the different weeds which find their way on farms as the country becomes older, the quack-grass has as yet made but little progress in this region. A farmer informed me that he had succeeded in destroying it effectually, by continually plowing it under. As soon as the first shoots began again to peep, it was immediately inverted. In the course of a few months it was effectually destroyed; but if allowed once to rise above the surface, it soon recovered itself, and the labor was lost. This remedy, namely, smothering—not allowing the plant to breathe through its leaves, may be applied in the destruction of all creeping plants which extend by the roots only, such as quack-grass, Canada thistles and milk-weed, but is less effectual, or may require a term of years, in subduing such weeds as red-root, chess and ox-eye daisy, which are propagated mainly by the seed.

The new cattle-law is becoming more generally enforced, and the lawless are yielding to the pressure of public opinion. In the town of Ledyard, and more particularly in the vicinity of the beautiful village of Aurora, where the present law originated, no animal is ever seen running loose in the highway; and I observed that one farmer had entirely removed a portion of his fence—his ten-acre cornfield not having a single rail to separate it from the carriage track. A few such examples as this would serve effectually to keep the law in force, for no person would have the audacity to let loose his animals with the law over his head and the certainty of their doing much damage. The grass along the highway is beginning to grow luxuriantly, and in some places good crops of hay are obtained. The rapidly increasing value and scarcity of timber is rendering the fencing of farms more and more difficult and expensive. Post and board fences of durable timber, usually last about twenty years if well made, after which the period may be prolonged some years more, by nailing on vertical facing-boards over the posts.

This being the year of the seventeen-year locust, these insects have now just made their appearance in great abundance. Along some of the oak districts they appear in countless myriads—travellers are annoyed with them as they pass along the streets, and their short or interrupted cry or song, blended together in such immense numbers, produced a continuous roar. Where trees grew seventeen years ago, especially oak trees, they are most numerous, and come up out of the ground abundantly, even in open fields where trees then stood. An old decayed stump is often an indication of the place where they are found in greatest profusion. On such spots now converted to smooth roads, the surface is seen full of holes where they have emerged. J.

THE LAUNDRY.

Perfection in this branch of housewifery does not contribute as much to sensual enjoyment as skill in the management of culinary concerns. Granting that the vulnerable point of good will lies in the stomach, it follows that the censorious friend or fastidious husband, will be less severe if the table linen is not snowy white and smooth, than if the same quality were wanting in the breakfast rolls or cakes. Yet the fame and gratitude springing from our contributions to appetite, are circumscribed to the circle of our intimate friends, while the merits or demerits of our laundries are carried as an advertisement on our husbands' bosoms, flaunted in every crowd wherein our daughters spread their crinoline, and flutters out of every window in our houses like an auction flag, challenging notice; therefore to the ambitious housewife, success in the laundry is an ultimatum.

Wash-house.—Even in the smallest establishments, this house cannot be comfortably dispensed with, and we verily believe that one-half the dirt and discontent that mars the happiness of many homes, is traceable to the abominable habit of washing in the kitchen. It is too much for woman-nature to look upon heaps of foul linen, sloppy floors, and all the abominations of washday, and not feel disgusted at its close association with her table preliminaries. And yet she is a thrice blessed woman if the finale is not in her own particular chamber. According to the usages of many parts of our country, she does well if her own sanctum is not turned into a pandemonium of rough-dry clothes, sweating maids, thermometer at blood-heat, and momentary risk of making woful wreck of your matchless baby's face, by coming in contact with a hot iron.

We think there are few wives, after a little experience, who would not convert one of the double parlors and its rosewood furniture, into a snug wash-house and suitable implements for this indispensable labor. Husbands would probably demur, for they know little of the discomforts of wash-day, save the cold dinner and cross looks of the wife that scandal associates with it; and we are sorry to add, pride is stronger in our land than a rational love of home comforts—ergo, well furnished parlors are often had at any cost, and a wash-house now and then as a concession to a very dear, but capricious wife. Our limits do not allow us to specify plans, but we suggest a well ventilated room, capable of summer heat in a winter's day, for while washing may be made endurable, it can never be made agreeable work. It should have at least one capacious closet for the furniture necessary to be used in washing, and should have another for the clothes when collected rough-dry, and for the boards, baskets, &c., used in ironing. There should be in the wash-room a furnace or wide fire-place for placing two or more large kettles. In or near the house there should be a full supply of good water, and a pipe for leading off the dirty water.

In the slave States, where extensive beef, hog and and wool crops have to be handled, it is convenient often to use the wash-house for such purposes, in which case the drying and ironing room should be separate from the wash-house, and be only used for those purposes, or something equally cleanly. If the floor, woodwork, and vessels used about the wash-house, are all painted outside, it will be much easier to keep them clean. A HOUSE-KEEPER.

CORN IMITATION OF OYSTERS.

In a late number I saw a receipe for making corn pudding, which you seemed to think had been improved on from the original by the quakers, and as I chanced to be one of *that sect*, I thought perhaps it might still *continue to improve*, if I sent you my receipt, which is somewhat similar to that, called *Imitation Oysters:*

Take young green corn and grate it in a dish; to one pint of this add two eggs, well beaten, a small teacupful of flour, half a cup of cream, and a spoonful of butter, and some salt and pepper; mix them well together. A tablespoonful of this will make the size of an oyster. Fry them a little brown, and when done butter them, but when *fried in butter* it is sufficient. Sweet corn is preferable. A. B.

SECURING PEACHES.

One of the greatest vexations to residents in the range of the Alleghanies and in the prairie region is the difficulty of growing that most healthful, desirable and almost indispensable fruit, the peach. The causes of the difficulty have not yet been fully stated; perhaps they are not fully known by any one. Hard freezing below a certain figure of the thermometer is often stated as the cause, but no one can fix the point. We lose all after comparatively mild winters, and we sometimes have partial supplies after freezes of 20 to 25 deg. below zero.

Being particularly desirous of securing a few specimens of some new sorts this season, I bent down branches and trees to the surface of the ground in December when the wood seemed as ripe as it was possible for it to become, and covered them with spruce branches placed on the top of the first snow. Other snows succeeded, and we had what is quite unusual here, a continued thick mantle of snow throughout the winter, and no severe freezing occurred after it disappeared. Yet peach trees, roses, quinces, grapevines, and many shrubs, seemed to suffer quite as much as in some other winters of great exposure to parching northwesters or cold. Some of the peach buds were rotten, and whole branches that lay on the ground were dead. Evidently the wood was not ripe enough and a question follows as to the reasons for this. Going back farther to look for answers I find nothing that will apply, excepting that we had very great drouth, continuing through all the months of June and July, arresting early growth. In September and October we had frequent rains, and very warm, growing weather, inducing excessive growth after the previous long rest, but of course too late for the ripening up of such free-growing things as Rareripe peach trees and Isabella grapevines. Our mountain climate seems especially liable to these severe interrupting vicissitudes. Another probable cause of imperfect ripening of peach wood is the delay of growth caused by the loss of the first leaves from curl; this is perhaps the worst obstacle of all, because so general and annual.

I should have mentioned that some trees which I did not lay down, but around which I packed a coat of corn fodder two to three feet thick, grew better in the spring than those laid down, but will not bear. Larger trees, five or six years old, unbudded seedlings, have some fruit, but we want something better. I shall try, by attentive culture of some pet trees, to secure complete maturity of wood this summer, and will try the same modes of winter protection again, if I live, and shall be glad to hear of others' experience.

Tyrone, Pa. W.

SURFACE MANURING.

Messrs. Editors—Permit me to add my testimony to what has been said in favor of surface manuring. Formerly the most common way of applying manure in this section was after spring work was done to draw out the manure without piling or rotting, and spread it on the summer fallow, to be plowed in when breaking up. This, as generally the manure was very strawy, was often found to do but very little good, while in some very dry seasons it was thought to be a positive injury, which was caused, it was said, by so much dry straw, causing the ground to dry up much worse than it otherwise would be likely to do.

When corn came to be more largely grown, many adopted the practice of applying their manure to grass ground in the spring for that crop. The coarse, strawy manure was not so much dried up then, and as it was turned under with a somewhat green sod, and there was more rains in the early part of the season, it was found that it rotted much better than when plowed under in the usually much drier weather in the summer. But though this was found to do much better, yet it was open to the serious objection, that when the corn first came up and stood in great need of manure to give it a good vigorous start, this coarse manure, turned under the sod, out of the reach of the small rootlets of the young corn, was no benefit whatever to the crop. Hence for a month or two the corn would have a small, yellow, poor appearance. But after that, when the sod and manure began to get rotten, and the roots of the corn fairly got hold of them, the corn would come forward very fast, and often make a good crop. This course is still followed to a considerable extent.

Then another practice was adopted to some extent, though not as much as it might have been to good advantage. This was to pile the manure in the yards in the spring, and draw it on to the land prepared for wheat in August, spread it finely, and work it in with Ide's wheel-cultivator. This application of rotten manure on and in the immediate surface of the soil, gave the wheat an excellent start in the fall, and was a great help in bringing it through the winter and spring in good condition, and when there was anything like a fair chance, gave good crops.

I had followed the two last practices, observation having shown me that I did not want to try the first course, during the time I had been farming, until I saw the practice of piling and rotting the manure, and applying it to grass ground in the fall recommended in the Co. Gent., when I adopted this course, which, varied somewhat by such circumstances as were not easily controlled, I have followed to the present time, with the most satisfactory results. The principle advantages of this course I have found to be:

1st. In regard to the time I have to do the work in. I pile manure at any time in the spring when there is time to spare, or when my help is not wanted for other work on the farm. If found necessary, it can be turned in the summer in the same way, when from wet weather, or any other cause, there is not much to do, or that can be done. And much the same course is taken to get it out in the fall; by always taking a time when it will not interfere with other work. This course I find a great advantage over the old way of getting out manure in the spring for corn. For with our short springs in Western New-York, it is all we can do to get our crop put in the ground in season, without stopping some time to get out manure. So to apply manure to corn in the spring, planting must generally be somewhat late, or we will have to draw manure when it is too wet to plow, and when the lanes and fields will be badly trod and cut up by the wagons and teams. I also find it better than to have to draw in August for wheat, when there is always all the other work that can be attended to.

2d. That the strength of the manure seems to be just where I want it. As for instance I usually put my manure on a clover sod that is to be planted to corn the next spring. The rains of the winter and spring carry the strength of the manure into and diffuse it through the soil, so that it not only causes the clover to make a very early and vigorous start in the spring, giving something of a growth to turn under, and a sod that, in consequence of the large amount of green succulent matter it contains, will very soon rot, and be of great help to the crop, but it puts the soil in just the right condition to give the corn a very rank, vigorous start.

This securing a good start in the beginning, is a great help towards raising a heavy crop, and not only makes surface manuring in this way a great deal better than the old practice of plowing under coarse manure, but it seems to answer full as well as manuring in the hill. In this way, with the additional benefit that appears to be realized by means of the clover, I have no doubt that I receive a great deal more benefit from the same amount of manure, than I did when the coarse manure was plowed under for corn.

3d. I not only receive much more immediate benefit, that is to the one or two first crops after manuring, but find that the effects of manure applied in this way last a great deal longer than I have ever found to be the case when it was applied in any other way. For instance—seven years ago last fall I put what manure that was then left, on part of an eight acre lot, which was planted the next spring to corn; and although I have had heavy crops of grain and clover on that part of the field every year since, without the addition of any more manure or other fertilizers, except plaster and ashes, yet every crop showed plainly where the manure was put; and the corn last year, though not as heavy as on the rest of the field, which was manured the fall before, showed plainly how far the first manuring went, and gave a yield of over 130 bushels of ears of excellent corn to the acre. Had not the wire worms injured one corner, and that next to the gate, where the crops had always been the best, there would have been at least 140 bushels of ears to the acre on this part; there was a little over 1,000 bushels of ears on seven acres, and had it not been injured by the worms, there would have been at least 150 bushels of ears to the acre. One acre of the lot was in potatoes.

In regard to the cause of, or reason why, manure is found to be so much more lasting when applied in this way, of course I cannot pretend to give anything that will be certain, positive, or reliable; but my experience tends pretty strongly to the conclusion that it must be connected with or owing to the growing of clover in some way, though perhaps this opinion, at least in some measure, may be due to the fact that I had no better reason to give. But then I can say this much, that I know I have realized a great deal of benefit in the improvement of land, by the growing of clover, and that I get a good deal more benefit from manure, when applied to fields on which I raise a good deal of clover. F. *Orleans Co., N. Y.*, 1865

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MANAGEMENT OF POULTRY.

Every farmer's wife (or housewife who has ground enough around her) who cares for the comfort of her household and the respectability of herself as a housekeeper, will find it indispensable to keep a constant eye on two of the prime resources of her table for luxuries, viz.: the poultry-yard and the dairy.

To realize the importance of the first, it needs but a glance from the plowman's savory scramble of eggs, with the light corn-cake beside it, up to the towering temples of the bridal feast, all cemented with eggs, to convince the thoughtful housewife her fowls are as necessary as her cows.

Have poultry, therefore, if they must shiver in the sleet in the icy tree-tops, rob the grain stacks, or lay in the kitchen corner. If, however, your honored lord's means permit it, have them provided for comfortably, if rudely, which may be done with very little expense, if you save up the lumber and keep your eye upon the odd days which the hands find unfit for labor in the fields. But if you own a homestead, and the preacher's salary, the county tax and the childrens' school bills are made sure, indulge your taste a little and fit up your poultry-yard in a secure, durable and tasteful manner; whitewash, shrubbery and friendly vines, lend great assistance in such undertakings.

The Poultry-Yard.

A poultry-yard is not indispensable, but very convenient, for those who like to have system in this as well as other branches of domestic business.

The advantages are that you can keep your poultry from ranging if you choose, and without confining them in a house; keep your turkeys, geese, ducks, &c., during the morning hours in the laying season, and thus secure their eggs without the tedious watching and hunting for nests free range necessitates. You can also better protect them during brooding season, and it accustoms your fowls to feed and roost in a place of security, where they are conveniently come at too if you need them. Unless you mean to raise your poultry in the yard, a very large one is not necessary for the purposes we have enumerated; and we think the best plan and least expensive is to release them soon as laying hours are over, and give them as free range as possible, that they may derive their subsistence from things not only not valuable but pernicious to the agriculturist, such as insects, bugs, worms, etc.

For your poultry-yard select a dry piece of ground, as far from your kitchen garden and yard, if you cultivate flowers therein, as your personal convenience will allow. Size to be determined by your taste or wants. Enclose it with a picket fence and gates of the same; over any other kind, fowls will escape. A close hedge of osage orange would probably do, if a low fence a foot or two high was made, to prevent their creeping through the shrubs close to the ground—they certainly cannot fly through or over the hedge. On one side of the yard, about four or five feet distant from the fence, and the side most distant from your poultry-houses, feed-coops, &c., place a strong curb; put on this a good layer of finely cracked rock, and top-dress and level with gravel; this makes a comfortable range on which to set your coops for the young brood—securing them from burrowing vermin and the water which settles under them on uneven ground. A row of plum trees outside of this curb, will thrive well, and repay with their shade the services rendered by the fowls in destroying the worms which infest and render plum trees nearly unproductive of late years. There should be a walk to your poultry-house, paved or graveled, so that mud need not deter you from attending them in the worst weather. On the sides of this walk, if your poultry-house has no shed, will be a convenient place for feed-coops and water-troughs; there should likewise be shallow water-troughs and suitable feed-coops convenient for the little broods, while their mothers are kept in the coop during dewy mornings and showery weather. There should be one trough in the yard large enough for the geese and ducks to wash in, when confined in the yard. A clump of evergreens, or a thick set hedge of cedar on the north side, to break the fierce winds, will be found a popular resort in summer's heat, and will furnish beneath their low growing boughs, a dry wallow in winter.

We also vote long life to any brave old forest tree that may happen to be hereditary monarch of this little principality. Under his crown the feathered tribes of his domain will find the out of doors accommodations they so much luxuriate in during summer, and we are sure while they indulge this native taste at this season, the houses will be less subject to be infested by vermin. If small, the poultry-yard will be kept nude by the tenants thereof. If large, part of it should always be kept naked—that nearest the coops of the young,—and the other part should occasionally be turned up for the amusement and thrift of the fowls. Indeed, if large, the yard may be set in part with raspberry, currant, or or some such bushes. You will gather enough fruit the fowls cannot reach, to repay the trouble in setting them; the farm boy will run a furrow or two between them as he passes some day; the yard will look more sightly, and every one has observed how fowls love to cluster about the roots of trailing shrubs. We invariably sow our yards in fall, while the fowls can range out thickly, with rye, enough of which always survives to afford their winter pasture. A HOUSE-KEEPER.

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Product of a Cow for Five and a half Months.

MESSRS. EDITORS—I send you an account of what a native cow of mine has done since she calved, which is quite fair, though she is by no means the best cow I have; yet it shows what good care and fair feeding will do. The cow is good size, 10 years old, and calved the first day of January—a bull calf, rather small, got by my thorough-bred Short-Horn bull Prince of Hartford, 5093 A. H. B. I mention this merely to show how a calf will grow when got by a good Short-Horn bull. The calf weighed, dressed, 169 pounds at 9½ weeks old, and sold for $36.78. The cow made of butter while the calf was fatting, $6.50. Since then to 15th of May, she has given from 38 to 44 pounds of milk per day, which has been made into cheese—partly at home and partly at the factory. Allowing 12 pounds of milk to one pound of cheese, and that is high, for the milk is very rich, it would amount to 270 pounds of cheese, which at

20 cents per pound would be,	$56.00
To which add veal,	36.78
Butter made,	6.50
Total 5½ months,	$99.28

The cow is now at grass and gaining every day. She was fed through the winter and spring, good hay, all she would eat, and one feed of roots, two thirds of a peck, and one quart of meal, rye and corn, with a little oil meal mixed with it. The cow is in nearly as good condition now as when she calved, and for aught I can see, will be a good cow for some years yet.

Barre, Mass., May 17, 1865. E. P. HAYNES.

LETTER FROM JUDGE FRENCH.

LOCKPORT, N. Y., June 10, 1865.

MESSRS. EDITORS—The few days since I left you at Albany have given me some pleasant and useful glimpses of agriculture in your great State, which may be familiar perhaps to you and to such of your readers as reside near you, but would be quite new to a large circle of them in New England.

Being myself on a tour of education, it is but fair to endeavor to make others participate in what I may learn. Prominent agriculturists are public property, to some extent, and I trust some of my friends of that description will pardon me if I use their names in some allusions to their favorite pursuits. I hardly know a better school for a short term for a person who is far enough advanced to appreciate the lessons he reads, than may be found in the suburbs of Geneva, N. Y.; and as we cannot well do otherwise than to speak of particular estates by name, we may as well begin with some things we saw

At J. Otis Sheldon's.

For its fertile soil, for the commanding site of its mansion, overlooking broad fields teeming with luxuriant crops, rich pastures filled with choicest flocks and herds; grand old oaks and elms, single or in groves and clusters; copious springs, which fill to overflowing artificial ponds—with the sparkling waters of Seneca Lake stretching out for miles in the distance — for these general features, Mr. SHELDON'S estate is well known as one of the finest in the country. I propose, however, to refer at this time rather to a few details than to enter into any general description. Among the institutions "near Geneva" is the pioneer in farm drainage, JOHN JOHNSTON, and I had determined to visit him uninvited, at his farm. When I reached Mr. SHELDON'S place he was absent, and I requested one of his men to show me the stock, thinking I would cut my visit short, and go soon to Mr. JOHNSTON'S. As we walked toward the pasture, a carriage drove up, and my attendant said, "There is Mr. JOHNSTON, with his son-in-law, Mr. SWAN." I immediately ordered a halt, and introduced myself, and was met with a hearty welcome. I said to him that he was just such a looking man as I expected to see, to which he replied promptly, "Well ye are not at all the man I expected to see; I thought ye'd been older, and a tall aristocratic man; but I am very glad to see you."

Mr. Sheldon returned while we were talking, and soon after we were joined by Mr. PAGE of Cayuga, to whom we are so much indebted for excellent drawings and pictures of valuable stock, and we passed some hours together in going over the estate.

Mr. Sheldon has now nearly a hundred thoroughbred Short Horns, a few Jerseys, and a fine flock of South-Down sheep of almost one hundred. I soon found that in that presence, silence on the subject of Short-Horns was my only safety. What those four gentlemen did not know on the subject, as the saying is, is not worth knowing.

I had passed a night of this week with Paoli Lathrop at South Hadley Falls, and examined his fine stock of Short-Horns, and looked over the herd-books with him till I had a realizing sense that Short-Horn cattle have far more ancestors than British noblemen, but here was Mr. Sheldon, who not only knew every one of his hundred animals by name, but seemed also to know their great grandfathers and mothers as well, and here was Mr. Page, who had a portfolio of portraits of all the famous Short-Horns of the century, and my other friends seeming to know not only this herd familiarly but untold generations of Short-Horns, going back to the bulls of Bashan, and perhaps to Job's cattle.

All I dare to say is, that if anybody in this country has a finer herd of Short Horns than Mr. Sheldon, I hope I may receive an invitation to see it.

The prices paid for high-bred live stock are only equalled by petroleum stock. Mr. Lathrop had just sold a cow and four heifers for about $1,300, and felt quite disappointed that a breeder to whom he had offered $400 for a cow, refused it. A gentleman offered Mr. Sheldon $2,000 for one of his cows, in my presence, and the offer was promptly declined.

What is remarkable in Mr. Sheldon, he esteems the Jerseys very highly, while most breeders of Short-Horns look upon them with contempt. Mr. Johnston was unceasing in his jeers at them, and says it is nothing but fashion that makes anybody keep them. The South-Downs on Mr. Sheldon's estate are a fine flock, and his lambs, many of them twins, are very strong. But such pastures as we find in Western New-York, would convert our common New-England cattle into different animals. Cows all through this region are seen in clover literally up to their bellies, on fields where you might cut two tons to the acre. The Kentucky blue grass is indigenous near Geneva. At Mr. Sheldon's, and at Mr. Swan's, I saw fields of it that had been sown on turf and scratched in, that would give two or three tons to the acre. For grounds near the dwelling, where one cannot afford to keep a smooth lawn, this grass is very suitable, because it gives a green sod when mown, and does not die out like timothy and most other varieties.

A barn on Mr. Sheldon's place deserves special notice. It is 150 by 48 feet, and 20 feet posts, and holds about 300 tons of hay. The floors are tight, but the boards on the sides are open nearly a quarter of an inch for ventilation. We must leave this beautiful estate and its hospitable owner somewhat abruptly, and say something of what we saw

At John Johnston's.

Mr. Johnston, as everybody knows, is a Scotchman of more than three score years and ten, but bright and active as a youth, and as cheerful as a May morning, and if ever he has his photograph taken with his little great-grandson on his knee, I bespeak a copy. I passed a night at his house, and walked over his drained fields, and we talked of drainage, possibly with as much zeal as our friends "over yon" had talked of Short Horns. Mr. Swan's farm of 300 acres, known as "Rosedale," adjoins Mr. Johnston's, which contained 300 before he sold a part. None of this tract was what we call swamp or even wet, it being a rolling clay soil upon a hard-pan, apparently very much like most of the land bordering on the Central railroad from Geneva to Lockport. Until Mr. Johnston began to drain nobody believed draining would at all benefit the land. It was dry enough in summer, and it was supposed that draining would increase the drouth. Now all this 600 acres is drained with tile 30 feet apart, or less, and the utility of drainage on such land fully established. Mr. Johnston has done more for his adopted country than if he had builded a city, and what is singular, his good work is appreciated in his own life-time. He has made himself independent by raising wheat and feeding cattle and sheep. He has 24 acres of wheat now sown in drills, earlier by several days than any upon undrained land, and the difference of even three days often saves the whole crop from the midge.

One of the chief advantages of draining on such land is, that the crop is earlier. Mr. Johnston has sometimes hoed his wheat between the drills; one year the whole of 23 acres. He practices occasionally fallowing still, to keep his land clean. He has now about 13 acres of *winter* barley, as promising as any I ever saw, being the first experiment he has tried with it, and he seems well satisfied with his prospects. Mr. Swan's farm, like Mr. Johnston's, lies on the hill in full view of Seneca Lake. On his fields where formerly was raised but 200 bushels of wheat from 40 acres, he now gets by means of drainage, about 30 bushels to the acre. I have never, myself, seen any region where the advantage of draining on high land is better illustrated.

My visit to John Johnston will always be pleasant to remember. I trust his light may shine yet many years, and that many may follow in his footsteps.

Had I time and paper, I might tell of my visit to Mr. MOORE of the Rural New-Yorker, Mayor of Rochester, and how we visited the University of Rochester, a model building for its object, and of our ride to Ellwanger & Barry's nurseries, and the beautiful things we saw there; bnt my march is onward to the West, to observe agriculture and its institutions of learning, of which by-and-by perhaps some report will be made. Very truly yours, H. F. F.

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CARE WITH STRAW AND FODDER.

A great deal of discussion has occurred of late years as to the comparative value of straw, cornstalks, hay, &c. The diversity of views, which is obvious, is no doubt owing largely to the imperfect manner in which these different substances are cured and preserved. One farmer, for example, finds the use of straw of great value, keeping his cattle and other domestic animals in excellent condition, with a very little grain or meal. Another denounces it as nearly worthless, as his bony cattle abundantly indicate. On further examination, we find that the first has taken much pains to secure his straw in the best order—the other has neglected it, allowed it to become wet, musty and unpalatable. The same result has taken place with clover hay—one man has it fresh, green and excellent; with another it is black, tasteless, or repulsive, having been washed by rains or become mouldy by partial drying. The same difference exists with corn-fodder—resulting in one instance from timely cutting, and securing in stiff, erect shocks—while in the other the stalks are cut out of season, badly put up, tipped over by winds or by their weight, and drenched, blackened and rotted by long rains. Who can expect his cattle to eat and thrive on this incipient manure?

The season is now approaching when farmers should give especial attention to this subject. Those who are about to cut their wheat, should remember that if harvested before the heads droop and become fully ripe, or while in the *dough* state, the tips of the chaff being yet green,) the grain is better and even heavier—the straw, if well dried, is brighter and more valuable for feeding. Therefore, cut early, secure in good, well protected shocks, until fully dry, and place the straw when thrashed, either under a roof, or else in as well built stacks as are deemed requisite for hay.

Hay should be well and evenly dried—not in lumps or bunches, or in badly dried cocks, where it becomes yellow and sour. A good hay tedder, run by two horses, however valuable it may prove in expediting work, and saving labor in dodging stones, will doubtless be found still more valuable in consequence of the perfection of the hay it will enable the farmer to manufacture.

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EXPERIENCE WITH BEES.

EDS. CULTIVATOR—Your paper occassionally gives us some interesting matter relative to bee culture. A little more space devoted to this department, giving us facts relative to the mysterious ways and customs of the honey bee, would greatly interest the inexperienced apiarist—would reveal many facts of vast importance to his future success. The unsuccessful effort of many in this town to make bee culture a source of profit, no doubt is the want of experience in the hidden mysteries of the bee-hive. On the 30th of May two swarms issued from my apiary at the same time. The two swarms united and clustered in one cluster.

I propose to give you the course I took with them, asking information in case I am again placed in the same dilemma. One says secure the two queen bees; then separate the bees; place them in two hives, adding a queen to each. Perhaps if this could be successfully done, it would be the best course to take; but being unable to secure either of the queens, I proceeded as usual, and hived the whole in a common box hive which contained one cubic foot, with a chamber for surplus boxes containing half a cubic foot. I placed the hive on the stand in the apiary after the bees had all taken possession.

The following day they commenced work apparently in earnest. About mid-day they commenced clustering on the outside of the hive in large numbers. Probably one-half the colony had clustered outside. The weather was hot, and the sun shone directly upon the hive. At 2 o'clock they commenced swarming, when all vacated the hive, and all again clustered on a rail of the fence near. I accordingly again proceeded to hive them, not in the same hive, but in one that is more roomy, since which they apparently remain in perfect harmony, and now on the 12th day, have nearly filled their hive and boxes with honey.

Now the question is, does this hive contain two queen bees, or has the one destroyed the other? If two queen bees, will a swarm issue, and how soon? When a swarm is placed in a hive, if by accident the queen is killed, will the colony go on with their work for the season as usual? In case two swarms issue and cluster in one, what method is to be taken to secure the queens if the colonies are to be divided? When a hive of bees will not swarm, but cluster on the outside of the hive from day to day, a sufficient number for a full swarm, is there any method of making them swarm?

North Easton. J. LAKE.

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Indiana.—The Thirteenth Annual Exhibition of the Indiana State Agricultural Society will take place at Fort Wayne, Oct. 2–7th. The premium lists of this Society are always liberal, and every facility afforded both to exhibitors and the public.

OUR DISTRICT SCHOOL LIBRARIES.

Messrs. Editors—As your columns appear to be open for the discussion of questions relating to the interests of the rural population, and advocate mental as well as financial progress, I write to make a suggestion regarding that "diffusion of useful knowledge" for the encouragement of which laws have been framed and societies formed, and which is conceded by all to be the first step toward substantial and enduring prosperity. None will deny that the more educated a farmer or mechanic is, the better; and that a system which would give him the opportunity of mental improvement without interfering with the necessary duties of his vocation—that would place within his reach the means of acquiring information whenever interest or inclination prompted him to investigate any subject, is a thing greatly to be desired. But to afford him such facilities involves the necessity of libraries much beyond the ordinary means of farmers and artizans to purchase, and this brings me to what I would propose, viz., a radical reform in that much abused and neglected branch of our common school system—The District School Library.

These libraries were established by law many years ago, to disseminate information of a different grade and character from that taught in common schools, and stringent provisions were made for their support and regulation; but, however useful they might have been at the outset, they now practically amount to nothing. It is possible that I am mistaken, but I doubt very much if there is a dozen School Libraries in the rural portions of the State where all the requirements of the statute are lived up to; I know of many where the best books are scattered and missing beyond the power of resurrection. The system is regarded with indifference, and few librarians will risk a quarrel with a neighbor by insisting on the fulfillment of the letter of the law. By this means some of the books are lost, some are defaced and torn, others carried away by families removing from the district, and who "forget" to return the volumes before going; while others, probably from the same forgetfulness, retain books, sometimes for years, after the legal "twenty days" has expired.

To remedy this, I would suggest that the district libraries of each town be consolidated into a town library, and placed in charge of the town clerk, or of a librarian elected for the purpose; by so doing, the library would be rendered of sufficient consequence to be taken care of. The number of books placed within the reach of each inhabitant would be multiplied many times, and many volumes of great value for reference. For instance, those printed by Congress and State Legislatures, by societies like the American Institute, &c., could be obtained gratuitously, and many works of greater price and value than are now obtainable, could be bought with the consolidated library moneys of the town; furthermore, it is plain that books can be purchased much cheaper when a number are ordered, than they can when bought by single volume. As there would be duplicates of some books, these extra copies might be sold and the proceeds applied to the purchase of other other and later works.

It seems to me that this plan would be of great and direct advantage to a farming and industrial community. Thus if a farmer had a sick or unsound horse, cow, or sheep, suitable books in the town library would inform him of the remedy. Should he desire information regarding manures, rotation of crops, or any other subject, the knowledge could be acquired in this way; and thus in regard to art, science, mechanics, or other topics, for the authorities required for rapid and easy investigation would be available, and it is impossible to estimate the extent of the spirit of inquiry which would be excited by a large library in each town.

I have mentioned this plan to several, and the only objection that has been urged against it, is that the libraries would be placed at some distance from the edges of each town, to the inconvenience of a portion of the inhabitants. This reasoning seems to be futile, when we reflect that under the present arrangement very few of those who live near a district library care enough about it to see that it is kept up, and even if this were not the case, almost every farmer finds it necessary to visit the central portion of his township at least once in twenty days, (how many are there who would like to get along without hearing from the post office once a week?) on business of one kind or another. As to small children, it would often be an advantage to them if their reading matter was selected by their parents. The mere fact that each inhabitant, under the proposed change, would have access to the books of all the libraries of his town, instead of being confined to those of his own district, would seem to greatly overbalance any such objection, and that it would give to farmers and mechanics an opportunity of devoting their leisure to the study of any subject dictated by their interest or fancy without expense, would appear to recommend it to their favorable consideration. I hope that the subject may receive some attention at the hands of those interested in the cause of progress and reform.

Maryland, Otsego Co., N. Y. JAMES A. WHITNEY.

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Best Way to Cure Grass for Hay.

The New-Bedford (Mass.) Mercury says that about fourteen years since, Gen. Thompson of that town, "who does his own thinking, reflecting upon the mode of hay-making, was led to inquire why it could not be cured as old ladies cure herbs, it certainly being as important in one case as in the other, to preserve the juice. He accordingly experimented and soon adopted his present system:

"On a good hay-day he cuts his grass, leaving off about 9½ o'clock A. M. His men then devote themselves to spreading, turning and stirring up the hay, that the air may pass through it, and *all the external* moisture be thoroughly dried. After dinner this is done again and continued till about 3 o'clock, when the hay is raked into winrows, pitched on to a cart, and stored in the barn. Of course, if the day is not a good one, the hay is cocked and left till the next good day. Nothing is done to prevent heating, though salt, about 4 quarts to the ton, is sometimes thrown over it, from the idea that cattle will better relish the hay; often no salt is used and the General does not consider its use at all essential. This is the simple process. The result is that in the spring of the year we have seen clover in his barn, cut the previous summer, the heads blushing as if just mown, and breathing as delicious an aroma as when taken from the field. Of course the grass is not cut till it is fully developed—we do not mean dried up. We have full faith in Gen. Thompson's method, because its excellence has been thoroughly tested."

In a note to the *Boston Cultivator*, attached to the above extract, Gen. Thompson says:

"As to the time of cutting my grass, I consider it fully 'developed' when in full bloom, and not till then. At that time the juice has changed its character from a watery substance to a nutritious quality, and that I am desirous of retaining in the hay, a large portion of which is lost by the usual process of our drying. I frequently cut 2½ tons to the acre, and have no more trouble saving it with one day's making, than with lighter grass, except in such cases I frequently remove a portion of the grass as soon as cut to an adjoining field, for the purpose of drying the external moisture, and giving more room for that remaining in the field." He also says:

"Last year I purchased a *hay tedder*, and find it an invaluable assistant, thoroughly spreading and turning the hay, and doing the work of 15 men, and in a much more thorough manner than it can be done by hand."

ROADS.

As the time approaches which is the season for calling out laborers to work on our roads, allow me to make some suggestions regarding the best application of labor for the mending and construction of country roads. And first I will state what seems to me not to be best.

It is *not* the best application of road labor to plow the sides of an undrained road and leave the furrows where they are turned.

It is *not* the best way to scrape up on the roadway ox-shovels or scrapers full and leave them there as dropped in piles along the road. Even a tired doctor could not sleep on such a road.

It is *not* the best way to fill the holes and cavities of a clay road with gravel or sand.

It is *not* the best way to draw the clay that has washed into the ditches back on the trackway, and especially if muck and grass is mixed with it.

It is *not* the best way to make a nice road-bed which is liable to have water standing on both sides of it, so as to moisten the whole mass.

It is *not* the best way to put clay on a road that is near to a gravel bed or a sand pit.

It is *not* best to select gravel which is full of large pebbles—making the road so rough that the traveller on wheels is shaken as with a quarter ague.

It *is* best always to have the road-bed thoroughly drained.

It *is* best to give the road-bed a smooth and even surface, with as little plowing as possible.

It *is* best, when this is done with the best convenient material, to cover it with gravel, making, year after year, such portions as are gravelled so good as to last several years, so that every year will witness a new added section of good road.

The first thing to be done is to have the drainage made good; next a smooth and gently rounded surface, just sufficient to carry off the falling rain. When this is well done a moderate quantity of gravel or coarse sand, if gravel is not convenient, will make a pretty good road for light teaming. McAdam's leading principle was to have a dry road-bed, and on this to put such covering of broken stone that, when worn down, would make a roof for the road-bed water-tight.

I notice that farmers in many places manage their farms with skill and judgment, and yet when roads, which they use almost constantly, are made under their direction, they exhibit anything but skill and judgment. They select a plow for ease of draft—a wagon for durability, and other articles for use for their good qualities, but the roads under their care, destroy and wear out more value of vehicles, and subject their draft animals to greater strain and injury than is saved by neglect of good road making four times told. It is absolutely wasteful for any neighborhood to use bad roads when good ones could be made. Those who use them most would frequently make a saving by laying out, intelligently, four times as much as they do to keep their roads in good order. Such are the opinions of one who has witnessed the co-incidence of civilization and thrift with good roads in various portions of our country for more than fifty years.

AN OLD MAN.

SMOKE-HOUSES.

N. Reed's theory and practice with regard to smoke-houses, do not seem to coincide. He says that a smoke-house built entirely of brick, will be too damp for the ashes, while he recommends one like his own, which is substainlly a brick within a wooden one. Now I have one built entirely of brick except the roof, with a brick partition for ashes, in which they will keep dry any length of time. It is also "founded upon a rock," although *that* is built upon the sand or gravel, so that there can be no danger from fire, though there may be from freshet. By making it dark we find that our hams and shoulders keep better there encased in a bag, with perhaps some brown paper around them, or what is still better, a little cut hay, than anywhere else, though we have tried almost every conceivable method. E. C. K.

CURING BEE-STINGS

We remember many years ago, in reading the travels of James Backhouse, in South Africa, this distinguished English botanist stated, that when stung by a venomous insect, he sucked out the poison with his mouth, and observed the taste to be distinctly *acid*. Acting on the suggestion here furnished, we have found the best remedies to be alkalies, for the purpose of neutralizing the acid. Saleratus or soda should be made into a thin paste and applied to the punctured spot, which should be kept moistened with it some time. In the absence of either of these substances, fresh wood ashes made into a paste answers well. It is important that a speedy application should be made, before the poison has extended far. The application of mud has been found useful, acting in two ways, viz., by excluding the air and diluting or weakening the poison by the moisture in contact with it, but alkalies are much more efficient. As the season for the stinging of bees is approaching, those who are sensitive to the action of the poison may do well to bear this remedy in mind.

Swelled Head in Turkeys.

I notice in the Co. Gent. of Feb. 16, an inquiry as to a swelling over the eye of turkeys. My son, (age 15,) has been in the habit of curing it for several years, by opening it (when large enough to discharge) with a penknife, and cleaning out the matter thoroughly. We have never lost any by this treatment. I do not know the cause of the disease. We have one now upon which we shall "operate" in a week or two.

Saratoga Co., N. Y. AARON HILL.

PRUNING ORCHARDS.

Is it injurious to an old orchard to give it a thorough trimming out, say in February or March? R. M. B.

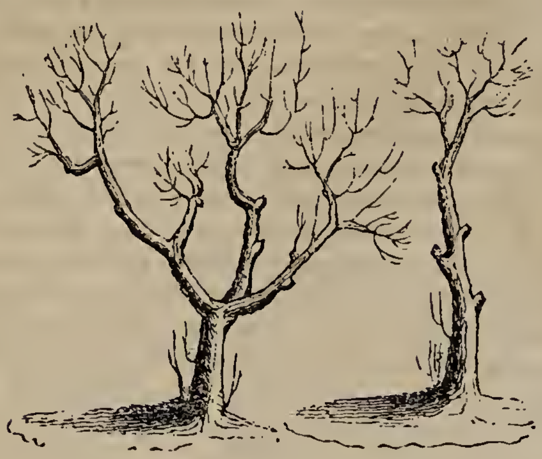

Fig. 1. Fig. 2.
Sprawling and two-story trees.

Giving orchards a "thorough trimming out," as the work is sometimes performed, nearly ruins them. Trees which have been kept in proper shape, need but little heavy lopping of branches. When badly performed the trees often appear like the accompanying figures, fig. 1 being a sprawler, fig. 2 a two-story tree, and fig. 3 a three-story one. If much pruning is required, it should be done gradually, and in successive years, and in winter or spring, before the buds swell, working the heads downwards instead of upwards, as is shown in fig. 4 Trees which from age have passed their vigor, are not easily restored.

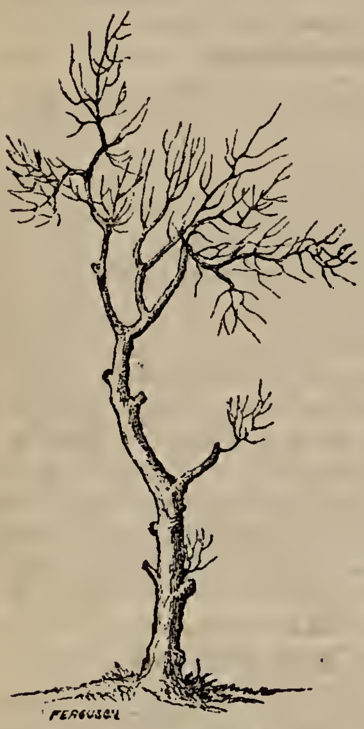

Fig. 3—*Orchard tree badly pruned, and made into a three-story.*

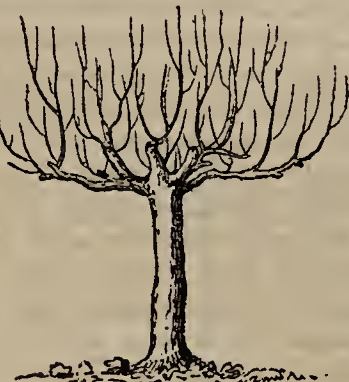

Fig. 4.—*A properly pruned tree.*

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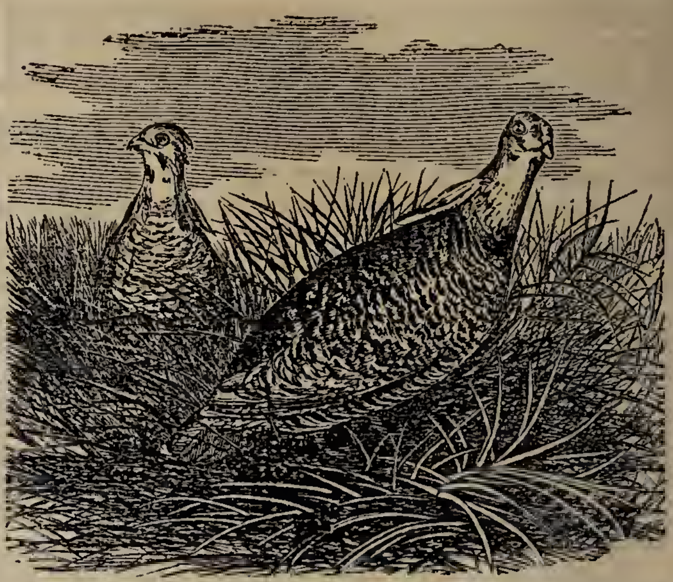
Horse Chestnuts.—The following item is just now "going the rounds:"

Tons and tons of horse chestnuts go to waste in this country every year, and yet on the Rhine horse chestnuts are used for fattening cattle, and for feeding milch cows, and 100 pounds of dried nuts are estimated to be equal in nutritive value to 150 pounds of average hay. Another authority makes them equal, weight for weight, to oat meal.



[For the Country Gentleman and Cultivator.]

Pinnated Grouse or Prairie Hen---*Cupidonia cupido.* Baird.

Description.—"General color of the upper parts brown, transversely barred with blackish brown; wings lighter brown; primaries grayish brown, with spots of reddish yellow on the outer webs. Tail feathers purplish brown, the two middle ones lighter and mottled with brownish black. Loral space and throat, light buff. The long feathers of the neck are yellowish red, dark brown on the outer webs. Under parts white, marked with broad curved bands arranged in regular series, of a grayish brown; under tail coverts white, crossed with brown and margined with black. Membrane over the eye, and gular sack, orange yellow. Bill dusky, feet yellow. Feathers of the legs gray, minutely banded with yellowish brown."—Elliot, *Mon. Tetraoninina*, Part III, 1865.

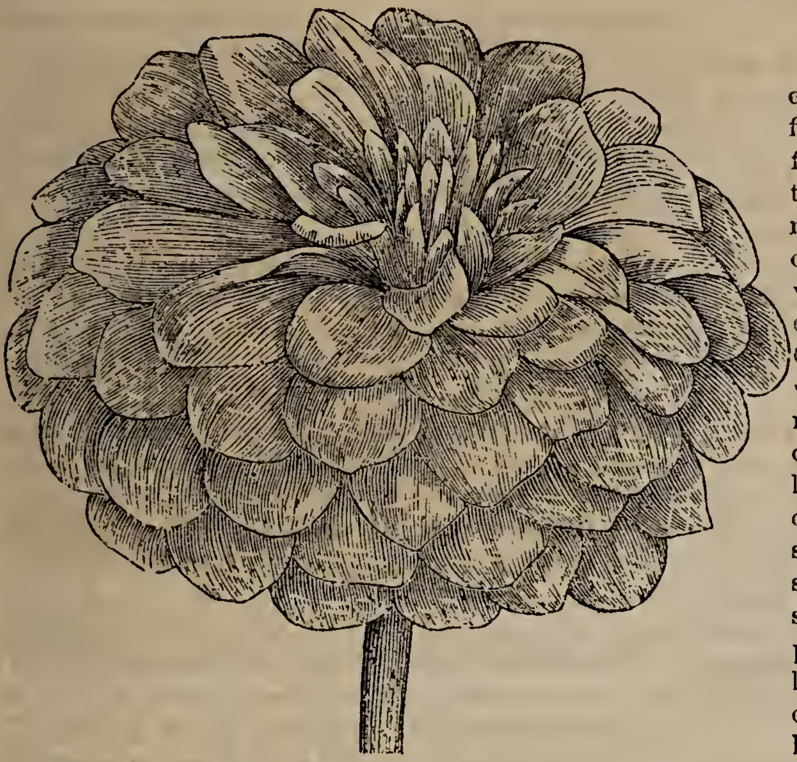
The Pinnated Grouse or Prairie Hen affords a striking example of the destructiveness of mankind. Formerly this bird extended over the whole country, so to speak, while now it is every year moving farther and farther west. They are trapped in immense quantities and sent by all the railroads to the eastward, where they find ready purchasers at *all seasons.* We say "*all seasons*" advisedly, for we have ourselves seen them publicly exposed for sale long after the time prescribed by law. If the persecution of the Prairie Hen be allowed to go on for ten years longer, it is our honest opinion that they will become a *rara avis,* and will not be seen except in the cabinets of museums and amateur ornithologists and sportsmen. Yes, the time will come when fathers who have been sportsmen in their younger days, will, pointing to the stuffed effigy of the then extinct Prairie Hen, recount to them their shooting adventures with glowing eyes and vivid thoughts of the "good old times," when these birds were common in nearly every State, but that men were allowed to kill them off by an unjust slaughter.

The Pinnated Grouse selects his dwelling-place with no ordinary care. No common prairie will suit him, but he must have an open and dry plain shaded with a few trees and interspersed with bushes. In such situations they will be found, if there are any of them in the vicinity.

The Prairie Hen roosts on the ground. Several frequently roost in the immediate vicinity of each other. Especially is this the case when they are in "packs," but we are not certain that they pursue the same plan when they have young broods.

The Prairie Hen can be easily domesticated, and will breed in that State.

Philadelphia. J. P. NORRIS.



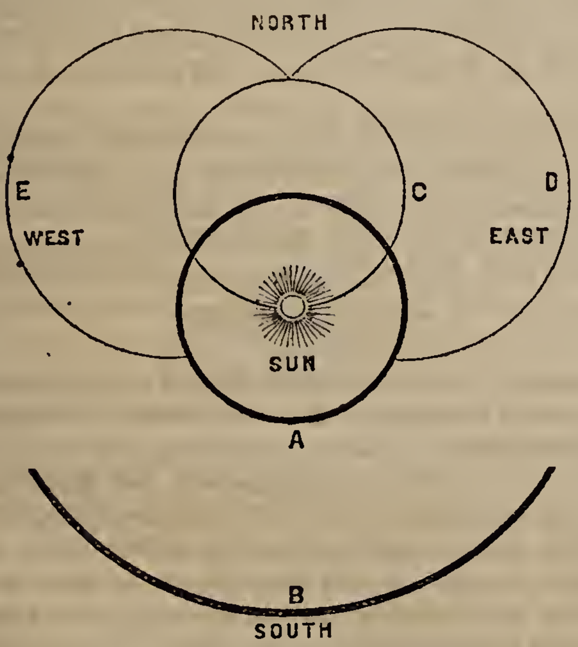
THE DOUBLE ZINNIA.

Among the modern introductions nothing exceeds in value the Double Zinnia. It was first presented to the admiration of European florists by VILMORIN of Paris. Every attempt to produce double flowers from the single Zinnia had failed, and there was but little hope of success in this direction. The seeds from which the double flowers were at last produced, were received from the East Indies by M. GRAZANI of Bagneres, France, but how they were originated or came to India, remains a mystery. The first double flowers seen in this country, were grown in 1861, several parties having imported the seed. About one-third only of the plants grown from the imported seed produced double flowers, the others being single or semi double. The double flowers showed but little variety in color, being of a pinkish red, only varying a little in shade, and lacking the variety and brilliancy of coloring of the old Zinnia elegans. In other respects, however, they were fully up to the expectation and the representations of European florists, being perfectly double, finely imbricated, and much larger than represented.

During the season of 1862 we observed a great improvement in this flower. The colors were much better, and of greater variety, while two-thirds of the plants grown, either from American or French seed, have double flowers. In a few years we expect the double will show the same variety and brilliancy of color as the single Zinnia, and then, or even now, for a brilliant and enduring show on the lawn or in the garden, we know of nothing to equal this flower. It seems perfectly adapted to our climate, and will endure drouth or heat, and also to our habits, for it will flourish with the greatest neglect. The plants grow from two to three feet in height, commence flowering early, if grown in a hot-bed and transplanted in June, and will continue until destroyed by frost, all this time giving an abundant show of flowers, no matter what may be the weather, without flagging for a day. The flowers are very enduring, and the same blossom will be in perfection at least a month, and often six or seven weeks, before beginning to fade.

Seeds may be sown in the open ground, as for hardy annuals, but the better way is to start them in a hotbed or cold frame, and transplant as early as possible. Not one in a thousand will be lost in transplanting.

Rochester, N. Y. JAMES VICK.



CELESTIAL PHENOMENON.

The above diagram gives the outlines of a most beautiful appearance in the sky, which we had an opportunity of seeing on Friday, the 26th of May. At 10 o'clock in the morning, at about 13° from the sun, was to be seen a dazzling halo, (marked A in the diagram,) almost as bright as the sun itself, and remarkable for the brilliancy of its rainbow hues. Farther to the south, about 55° from the sun, appeared the quarter of a circle B, also highly colored and bright; each end rested on some light hazy clouds. On the north a circle, C, having its centre in the circumference of the first, had its circumference to pass through the centre of the sun. This circle was white, distinct and complete. To the east and west the parts of two other circles, D and E, were seen. They were larger than than the last; their circumferences issued from the northern point in it, and turning to the east and west intersected the first described circle (A,) at a point a little south of the sun. These segments were white and shadowy. Thus we had at one view, two complete circles and the segments of three others, two having the sun in the centre, and three having the sun in their circumferences. Two chromatic and three colorless.

The weather for some days previous had been fine and springlike. The day before the wind had been from northeast, and had shifted on Friday to northeast by north. The day was hazy, with some light clouds to the east and south. We were probably on the western edge of a light though extensive gale, then passing to the east of us. Thermometer 70° and barometer 28.9, with but little variation before and after. The circles lasted from ten to two, when they slowly disappeared. Since then the weather has been very fine. FURMAN LEAMING.

Romney, Tippecanoe Co., Ind., May 29, 1865.

COTSWOLD SHEEP.

[The following valuable letter was written with reference to the prizes recently offered by us for Essays on the Breeding, Management and Feeding of Mutton Sheep, and was highly commended. Eds.]

Breeding.—A flock of Cotswold sheep can be bred by first purchasing a few ewes as near perfection in the eye of the breeder as possible. Observe their defective points if they possess any. Couple these with a thorough-bred buck whose points are all good, but those where the ewes fail should be extremely good. By pursuing this practice and persevering in it, defects of any kind may be eradicated, and the breeder will see with satisfaction a flock gradually but surely coming up to his standard of excellence. He of course must weed out the inferior and defective ewes annually, and fill their places with the young and perfect ones. This system involves the necessity of wintering the lambs in order to select the most perfect ewes after maturing. This is the system I have adopted, and after several years of experience am well satisfied to pursue.

My standard of excellence comprises: 1st. Constitution. 2d. Size and symmetry. 3d. Wool.

This breed should not be kept in too large flocks. My usual number for several years has been about 35 breeding ewes, all of my own breeding.

Keeping—They have pasture only during its season, are never housed in the summer, and have salt given them once or twice a week, as they seem to require. They should have access to pure water at all times. In the winter are fed on clover hay (mostly) three times a day; if not in good condition, are allowed about half a pint of grain each—corn and oats, or barley, per day, with an occasional feeding of roots; are housed in a well ventilated stable supplied with water, and allowed the range of yard or field in fine weather. They are fed hay in racks made with two horizontal boards a proper distance apart, made to slide up as the manure fills up, (pattern taken from Co. Gent.) These racks are simple, easily constructed, and I like them better than any other. Feed should be increased as the lambing season approaches.

Lambs—Are dropped the latter part of March or fore part of April. Usually raise from 120 to 130 per cent., and make every ewe bring up a lamb. If one loses her lamb, I take her and tie her head so she cannot smell the one designed for her adoption. They are kept alone for a few days, and the lamb assisted to nurse; they soon become attached to each other and are allowed to go with the flock.

When the lambs are two or three weeks old a number of the best bucks are selected for breeding, the remainder castrated and the ewes docked. About a week or two later the wethers are also docked, and all turned to pasture. Grain is continued for a few days until the grass is good. The pasture should afford a variety of grass, and not be stocked too heavily.

Shearing.—This is usually done about the 1st of June. A few days after the ewes are shorn, if they have ticks upon them, they will leave and seek shelter in the wool of the lambs; these are dipped in a strong decoction of tobacco, which exterminates the vermin, and is also thought to improve the quality of the wool.

Weaning.—When the lambs are about four months old, they are taken from the ewes and given good fresh pasture, (usually aftermath) until they are brought into winter quarters. They are not allowed to breed; are stabled, get clover three times a day, and a light feed of grain daily—about six quarts of ground corn in the ear and unground oats mixed, to the flock of thirty.

Early lambs winter better and shear more wool than late ones. They are shorn at the same time with ewes, and yield an average of seven to eight pounds washed wool per head, worth in these days nearly as much per pound as that of finer grades.

About the first of August they are divided. I select the finest and best ewes to replenish the breeding flock; the remainder, together with the old or imperfect ewes, are turned off to fatten. They have the best of grass only until the frosts injure it, which with us occurs generally about 15th October, when a feeding of half a pint of new corn each per day is given. As the season advances the quantity is increased, until they have all they will eat clean, which will be a quart or more per day. They also get a feeding of roots or apples once or twice a week, and what good hay they will eat, until about the 15th or 20th of December, when they are sold to go to the New-York holiday market, usually selling for from two to four cents per pound, live weight, more than the price paid for good to prime mutton.

I have made wethers, with the above treatment, weigh at twenty or twenty-one months old, over two hundred pounds; they were extra, however. Most breeders and feeders pursue a different course from the above, yet after several years' trial I am inclined to continue it for the following reasons: 1st, I get the growth of two grass seasons with one wintering; 2d, secure the best and heaviest fleece of wool, which is no small item in these times; 3d, they get sufficiently fat and heavy to meet the requirements of the majority of good butchers; consequently there is more competition for them than though they were much heavier.

I deem it more profitable to keep the lambs over for several reasons, viz., the advantage of selecting for breeding; the heavy fleece; the higher price for fine mutton over lamb at the holiday markets.

Dutchess Co., Dec. 29, 1864. R. G. COFFIN.

HEN MANURE.

I will give you the method which I have practiced for the last few years. Take one bushel of hen manure, one bushel of ashes, one-fourth of a bushel of plaster, mix it thoroughly together, and apply one-third of a handful to each hill. It is very essential that the manure should be thoroughly pulverized, and for this purpose I usually place it on the barn floor and let it dry, if it is not already so. Place a thin layer on a portion of the floor, take a common flail and commence to thresh it until very fine; push this one side, take another flooring, and proceed as before until you have finished. I have tried several methods to crush the many lumps that are in the manure, but have found this much the quickest and easiest. My practice has been to apply this to the young corn as soon as it shows itself above the ground, which gives it a vigorous start. L.

THE BLACK KNOT.

MESSRS. EDITORS—In looking over the columns of the COUNTRY GENTLEMAN, Cultivator, Gardeners' Monthly and Horticulturist, together with a few other agricultural and horticultural publications of the past year or two, I noticed many articles, some of inquiry and some for instruction, upon that widely known disease that attacks plum and cherry trees, called black knot. There seems to be a very wide diversity of opinion among various writers upon this all important subject. Some believe it is caused by an insect called the curculio or plum weevil, which has a particular liking for this choice fruit. And such as hold to this opinion advance the idea that when the fruit becomes scarce, so that the weevil have none to deposit their eggs into, it resorts to the tender wood of the plum and cherry, and deposits them there for the continuation of their race, and that causes the knot or knurl. Others attribute it to other sources, such as the disease of the sap, but the greater majority univerally agree that the curculio is the only cause of this disease. I notice in the CULTIVATOR, page 68 of the present volume, that you, Messrs. Editors, in reply to F. Manter, said, "the cause of this disease has not been determined;" and you might truthfully have added that it never will be so long as close and shrewd observers differ so widely upon the origination or true cause of this much dreaded black gum as some term it. As so much has already been said upon this subject, perhaps it would not be worth the while for me to occupy the space in your valuable sheet to state my experience of this malady, but trusting that it may be of some interest to a few at least of your numerous readers, I will state a few facts that have come under my notice. I do not claim to know the true cause of the disease, but am quite positive that those are in a great error who believe it to be caused by the plum weevil. I live in a section of country where the curculio abound in countless numbers; they not only destroy the plum crop if allowed to take their own course, but they make almost as savage attacks upon apples as that of the more tender fruits. I have made the plum my special favorite for 14 years, and have taken great pains during this time in selecting the best that could be found in this country. I cultivate about 190 plum trees of various sizes, 100 of which are in bearing, comprising nearly all the choicest as well as the most tender varieties, such as Green Gage, Coe's Golden Drop, Washington, Jefferson, Imperial Ottomon, Bleecker's Gage, Imperial Gage, and other varieties too numerous to mention in this article. And among all these I flatter myself to believe that not a solitary black knot can be found upon a single tree, and if my memory serves me right, I have not cut off more than two or three of these tumors during the past two years. I find that some varieties are much less affected with the knot than others, all under precisely the same treatment; for instance I have never in my life observed one of these warts upon the Washington, Imperial Ottomon, Coe's Golden Drop, &c., while the Frost Gage, and all the Damson varieties are more or less subject to it. I have observed that the plum and cherry trees in certain localities are much freer from these excerescences than upon those that are situated upon different locations. Yet I believe the disease to be more or less contagious in all places and in all situations, if allowed to take its own course.

Let the cause be what it may, if the cultivators of the above named fruit trees would exterminate each and every knurl as soon as they make their appearance, there would in my estimation be but little fear of its ever becoming troublesome.

Some three or four years ago my father-in-law gave me a number of plum trees of different sizes; some were quite large, and others quite small; many of them were so badly affected with the disease that he told me while digging them up that he did not know as they would be worth setting out. I told him that I would just as willingly take those as any, for I did not care anything about the knots. So I took them home and applied my usual course of surgical operations, which I have found to be the only means that will save trees that are thus afflicted. After making numerous amputations with my saw and knife, I covered the wounds with a solution of gum shellac varnish, to exclude the air from the cut; then carefully set them out, and since that time I have not observed a single knot upon one of these trees, although they comprise some of the very worst varieties for knotting, such as the Damson and Frost Gage; the latter, Mr. Downing says, "appears to have originated in Fishkill, Duchess Co., N. Y., where it has, for many years past, been most extensively cultivated for market; but of late has been so subject to knots that it is not now much grown." In conclusion I would say that I have fairly cured them of the disease by simply cutting them off, as above stated; but I notice that the remarks to an inquiry in THE CULTIVATOR of 1861, page 32, contradicts my statement, but I can give abundance of the most positive proof, affirming that my statement is a true one, although any one not familiar with the facts, to look at the trees at the present time, would very naturally come to the conclusion that such a thing as a black knot never could possibly have been upon one of them. They all look perfectly healthy and vigorous, showing no signs of the disease.

Prospect Hill, Washington Hollow. C. R. C. MASTEN.

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Remedy for Bugs on Melons and other Vines.

Seeing an inquiry in the Co. GENT. as to the best way of saving melon vines from the ravages of the bug, I give you the plan which I have used for some years, and found invariably to answer the purpose.

Take a roll of the best cotton batting, draw off pieces as thin as possible; place these over the young plants, putting a small stone or handful of dirt on each corner of the cotton, to keep it from being blown away, and your plants are effectually guarded. A pound is sufficient for several hundred hills.

I have tried many methods, and found none as cheap, convenient or effectual as this. The cotton acts as a very thin netting, allowing the air and rain to have free access to the plant, while it entangles the feet of the bug should he alight upon it. You will also find that plants thus covered will become more healthy and vigorous than those left uncovered, though neither should be troubled by bugs. These remarks apply equally well to squash and cucumber vines.

New Hamburgh, N. Y. J. T.

Feeding Rye and Clover to Brood Mares.

Messrs. Tucker & Son—"H. W. C." Glen Cove, Queens Co., N. Y., answers W. R.'s inquiries in regard to barley and rye as food for brood mares. I also recollect that similar inquiries have been made as to the use of clover. As it regards barley I am profoundly ignorant, as it is never used in Kentucky, where my experience was acquired; but *rye* and *clover are decidedly* injurious to brood mares. A lot of say 20 mares, grazed on clover and green rye, or fed with the matured grain, will not produce over 25 per cent. of colts. The injury they sustain is in failing to prove in foal. Either plant will produce abortion in the very early stages of pregnancy, *three times out of four.* The owners of stallions and jacks in Kentucky, in contracting to insure pregnancy, always prohibit the use of either after the third or fourth month. The grazing of either is comparatively safe, and but seldom has a bad effect; but the ergot found in the matured grain of rye, will produce abortion at all stages, and is a very dangerous food in the breeding stud.

H. C. W. says, "boiled rye fed blood warm, will bring a mare in season to a certainty, in from three to five days," and that he "never knew such treatment to fail." I have no doubt but his recipe is a never-failing one, and that she will continue in season just as long as he will continue to give such food, but will *never be impregnated.* The philosophy of the thing is, that rye as a food unduly excites the procreating organs, and in over-doing the thing the mare fails to prove in foal. Any food or medicine that excites these organs unduly, is fatal to propagation if long continued. The fact that rye will bring a mare in season, as stated by H. C. W., is proof positive that it will excite these organs, and although it might be used merely as an excitant, it is improper as food, and inadmissable.

In practice for thirty years, I know it to be fatal either green for grazing, or in the condition of meal from the grain, in at least, as I before stated, *three* cases in *four.* Anthony Killgore. *Stewartsville, Mo.*
Late of Fern Leaf, Ky.

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CONTROLLING THE SEX IN BREEDING.

Eds. Co. Gent.—I see in the Scientific American for May 6th, page 293, a Mr. A. de Terrandi professes to have discovered a way for controlling the sex in breeding, and further says, it has been in successful operation for several years at La Hotte, near Fort Liberty, Hayti.

A few years prior to 1860 I supposed there was some truth in the above, as I had a North Devon bull and mostly all of his calves were heifers. I had noticed him several times in serving cows that his left testicle had gone up, while his right hung down. While watching the effect of this, to see what came of it, I came across an article in the old American Farmer for 1823, where some man had thrown a boar to castrate him; after taking from him the left testicle he had gotten loose and gone off to the woods with the right one in. They were unable to get him again for several years, and they professed to have noticed that all the pigs he got while in this state were males.

So, thought I to myself, I have certainly found out just what so many breeders have sought for so long without success. Now I can have all my pigs males, and all my lambs females. Now I am fixed certainly, but before I tried the thing generally, I would try it on some hogs.

So to have the thing quite sure I thought I would try it on both sides—the same on the female as the male. So taking a boar, I took out his left testicle and turned him into a lot with three sows, one of which had her left ovaries out, the other the right ones out, and one not spayed. The next lot had a boar with his right testicle out, and three sows fixed as the others had been. The next lot had a boar and three sows, fixed as the first three had been.

Now for the result: Every sow had from seven to nine pigs. There were not less than three nor more than five male pigs in every litter, or just as near half of each as there could be.

Having proved the thing a humbug, I fattened and butchered the hogs without trying it again, being perfectly satisfied with the result of the experiment.

If any one has tried this same thing on cattle or sheep, I hope they will publish their experience.

Zanesville, O. J. Buckingham.

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HOW TO RAISE TURKEYS AND DUCKS.

The house for your turkeys need not differ essentially from your hen house. The roosts should be stouter and farther apart, and the turkey likes a lofty perch. Their nests should be larger and if you confine them in the morning until they lay, they should have plenty of grain and clean water to keep them quiet. But this confinement to the house is not desirable where there is a poultry yard. We always provided a few shocks of fodder or some little brush heaps, and let them indulge their taste for stealing their nests. The first laying of eggs we sometimes set under hens and raise as chickens. The second laying never exceeds ten eggs, and these we let the layer brood on herself, of course giving her the full complement of two dozen if we can. However we do not particularly recommend this plan, for common hens are hardly careful enough to raise turkeys, and the chicks brought out later by the old turkey hen never attain full size.

Young turkeys must be protected from the damp and kept within the enclosure for several weeks. After that they prosper well with the freest range. To improve the breed of your turkeys, procure every year a choice male from a stock different from your own, and for every male keep a dozen of the finest, largest and gentlest of your hens. The black are usually the hardiest of turkeys, and the white and light colored varieties the gentlest. A turkey hen may be kept about seven years in your yard profitably.

Ducks—Are easily domesticated, great layers, and esteemed for the table. It is best to partition them off a little place to themselves, for while they disturb no other fowl, they are subject to much annoyance themselves, if housed with different species. They may, in laying season, be furnished with food and water in their house, or kept in the poultry yard until the middle of the forenoon. They usually lay every day by that hour, and most varieties care very little where they deposit their eggs—the Muscovy being an exception to the rule. Ducks are usually hatched under the common hen; trim off their tails when taken out of the nest, and treat just as chickens, except to give them free access to water, to which element will they instinctively take, despite the distressing remonstrances of their anxious foster mother.

Since writing the above article we have received through a kind friend a pair of Swiss turkeys, from the yard of Mr. McHatter, near St. Louis, imported by him direct from Switzerland. They seem to be very hardy, and are very gentle; color a spotless white, with which their brilliant black eyes contrast very effectively.

LETTERS FROM EUROPE---I.

The Prussian Ministry of Agriculture—International Exhibitions of the Year—Mr. Klippart's Mission—Samples of German Wool—Agricultural Education in Prussia—Public Lectures—Thaer's Statue.

Berlin, May 25, 1865.

MESSRS. EDITORS—In writing to you from Germany it will certainly not be out of the way to commence at the *Hauptstadt*, or principal city, although there is evidently more attention paid here to military than to rural affairs. The latter, however, are by no means neglected, but are under the especial charge of the Minister of Agriculture, VON SELCHOW, with a *Landes-Oeconomie-Collegium*, or State Board, to assist him. The department occupies a large building, in which the central bureau is located, besides containing a very fine library, to which a reading room is attached. On ascertaining that the *Scientific American* was the only journal received from our country, I took an opportunity of presenting the chairman of the board, GEH. RATH. WEHRMANN, with a copy of the COUNTRY GENTLEMAN, which I hope will be found there hereafter. The cafes and reading rooms here are much better supplied with English than American papers, which is rather strange, considering how much interest the Germans take in the United States, especially since the late war. The spirit of progress is very apparent in Berlin, it being a great centre of industry and commerce, and the arts and sciences are cultivated here to a high degree. American inventions, as well as stocks, are much in demand, such as sewing machines, agricultural implements, and even petroleum, and I lately saw a wagon parading through the streets labelled *American Ice Cart.* A permanent industrial exhibition has been established here, and I wish we were more fully represented.

There are quite a number of exhibitions, several of which are international, to be held this year, one of which, at Stettin, commenced on the 12th inst. I regret that I was unable to be present, so as to give you an account of it, but I expect to attend the International Exhibition at Cologne, which opens June 2d, or perhaps the one at Dresden during the latter part of the month. There are also several minor exhibitions in various sections of Germany, which would be worth seeing, to say nothing of the other parts of Europe, such as Dublin and Oporto, but then one cannot see everything. The one at Cologne will be the best from all accounts, owing to its central location.

I have lately had the pleasure of meeting the indefatigable Secretary of the Ohio State Board of Agriculture, Mr. KLIPPART, who has come abroad for the express purpose of visiting the agricultural colleges of Europe, with the view of organizing one such institution in the best possible manner at home, in accordance with the recent Act of Congress. As lands have been granted to every State in the Union for this purpose, Mr. Klippart's Report will be equally valuable to all, and will be awaited with much interest. The subject cannot be too thoroughly investigated, as so many unfortunate mistakes have already been made in this matter. It would be well if each State could institute separate inquiries, so as to compare notes. I have just heard of the passage of the Cornell University bill, and it seems to me that New-York has an opportunity now to establish an institution far in advance of any other State, as both Congressional and individual munificence are combined here. I have also seen Dr. Czapkay of California, who went to Stettin as U. S. Commissioner, in company with Mr. Klippart, who is also Agent of the U. S. Agricultural Department. The latter procured at this place several thousand samples of wool, including duplicates, at my request, for the New-York Agricultural Society, with the view of determining the question as to the superiority of foreign wool, about which there has been so much discussion of late. As these are the very best samples to be had in Germany, the comparison cannot but be a very satisfactory and conclusive one. I also hope to get samples of grain and other seeds for your Museum, in fact whatever I can find illustrative of the agriculture of the country.

There are four agricultural academies in Prussia, namely, Eldena, Proskau, Poppelsdorf. and Waldau, besides many schools of a lower grade, to which I shall allude at another time. I shall endeavor to visit one or more of these academies, in order to give you some description of them. In addition to these separate colleges, there are agricultural departments connected with each of the two universities of Berlin and Halle. There is also a veterinary college at Berlin, with seven professors and two hundred students, which is very complete in all its arrangements. This is part of the agricultural department of the university, which, however, is not yet fully organized. The department here, as well as at Halle, is an experiment to ascertain whether it is best to have agricultural colleges isolated or connected with universities. The latter are so complete and well endowed by the government, that the success of the experiment would by no means justify us in dividing the agricultural fund among all the small sectarian colleges to be found in every State. The experiment so far has succeeded very well, especially at Halle, the students being allowed to attend lectures during the latter part of their course, in philosophy, history, literature and ethics. There is no reason, however, why a well endowed and complete agricultural institution in our country should not be able to furnish its students with as many lectures on subjects of general interest, as they would have time to attend to in connection with their special studies. There is no model farm connected as yet with the department at Berlin, but the students make excursions to the neighboring estates. The institute at Moglin, founded by the celebrated Thaer, is no longer in operation, the land being cultivated by his grandson, who is Professor of Agriculture at Berlin. There is a fine statue of Thaer in front of the Academy of Architecture, with the inscription, "Albrecht Thaer, a grateful country to the founder of Scientific Agriculture."

There have been public lectures delivered once a week here during the past winter, on agricultural topics of general interest, as the food of animals, the utilization of sewage, &c. On the latter subject a very important work has just appeared, being a report made to the Minister of Agriculture by three members of the *Landes-Oeconomie Collegium.*

I cannot say that I have seen much here of extraordinary interest in the agricultural line, unless it was a cow with two heads, a breed which I would not recommend, as although a double eater, it did not appear that she was a double milker. At an estate not far from town, which I visited with Mr. Klippart, I saw some beautiful cattle which are kept on the soiling system the year round, never being allowed to go out of doors, I understood, and they certainly did not look the worse for it. I must reserve, however, a discussion of this and other subjects, for a future occasion.

Berlin, Prussia. J. L. T.

SALT FOR CATTLE.

The price of salt having considerably advanced, with all other necessary articles, has led some farmers in the west to make the experiment of withholding salt altogether from their farm animals. The subject has led to considerable discussion in the papers in some quarters, whether salt is or is not really essential to the animal economy; some arguing that neither men or animals can long exist and maintain any degree of tolerable health without the use of salt. On the other hand it is asserted that in some parts of the world salt is used neither by the human race nor by dumb animals. In stating this latter proposition, if it could be proved that the deficiency is not made up indirectly in some other form in the food consumed, it might appear conclusive that salt is not essential to the health of animals. The farmers along the entire length of the southside of Long Island never have occasion to feed salt to their stock, and I presume it is the case over the whole width of the Island, and yet all stock get a full supply. The winds from the sea sweep over the lands, loaded with saline particles, in the form of fine spray, which finds lodgment upon the herbage, and everything with which it comes in contact. During a severe storm I have seen it seven miles from the ocean, lodge upon the windows, and when dry form visible crystals of salt. From this source the cattle and sheep obtain so large a supply of salt that they seldom or never manifest any disposition to seek it in any other form. It is asserted by those who have investigated the subject that generally along the sea-coast for 100 or more miles in the interior, that analysis shows that soda is the prevailing alkali in the soil, while still farther in the interior, along the same range, potash prevails in the absence of soda. It is inferred that the soda is deposited by the winds from the ocean, loaded with salt spray.

It is stated that in Brazil, Uraguay, and the Argentine Confederation, where immense numbers of cattle, horses and sheep are reared, that salt is never supplied to them by the farmers. I think that on investigation it would be found that nature has supplied salt or its equivalent through natural sources from the soil, rendering a supply in any other form unnecessary.

It is well known that blood contains a large percentage of salt, and salt is given off from the system through all of the excretory organs, the skin, kidneys, &c., in considerable quantities daily; hence the supply must be maintained or the animal must languish. Among some nations it is asserted that criminals are condemned to subsist without salt as a punishment for their crimes; the privation is represented as most tormenting.

In all Europe, from time immemorial, salt has been largely supplied to domestic animals, and it is claimed by some of the most profound writers in those countries that animals cannot be maintained in a state of health without it.

In the Memoirs of the Royal Academy of Sciences at Paris, are several papers showing the great advantages of salt, both as a manure and for cattle. It is here asserted that salt given with the food of cattle augments its nourishment. That in proportion to the quantity of salt eaten by cattle, the effects of the augmentation are perceived. That no ill consequences follow its use when given without stint. It is said these propositions are supported by unquestionable evidence, and the trials of many persons.

Crau, in the jurisdiction of Arles, in the county of Provence, France, has an extent of six leagues by three, the whole surface of which is covered with small rough stones, and not a tree or bush to be seen upon the whole district, except a few scattered on the border; yet on this apparently barren spot, by the free use of salt, more numerous flocks of sheep are bred and reared, than upon any other common of equal extent in the kingdom; and what is not less remarkable, the sheep are healthier, hardier and endure the severity of winter with less loss, though they have fewer sheepcotes for covering, than those bred in more luxuriant pastures, and that have the advantage of convenient shelter. Add to this that the wool of the flocks bred and brought up in the Crau is not only of the finest, but bears the highest price of any in France. It is concluded that these surprising effects are consequent upon the unlimited use of salt.

It is farther stated that it has been satisfactorily proved by trial in certain districts in France, that herds on the same farm have been separated into two lots, giving one half a full supply of salt, and giving none to the other half. In less than a month there is a marked difference in the appearance of the animals, in the sleekness of their coats, in their growth, and in their strength and firmness of labor; and these effects are produced with little more than half of the food consumed by the cattle to whom the salt is given.

In Spain, where the finest wool in the world is produced, large quantities of salt are given to the sheep; to which is attributed, in a great measure, the cause of the fineness of the wool.

In England a thousand sheep consume at the rate of a ton of salt annually. It is supposed to destroy the fasciola hepatica, or fluke worm. It is said that 1,000,000 tons of salt are given to animals in England annually, which would seem almost incredible.

Cato, 150 years before Christ, recommends salt for cattle, hay, straw, &c., as also does Virgil. In Germany and Spain it has been esteemed essential for sheep from the earliest history of those countries. In 1570, Conrad Heresbach commends it as being a certain prevention of the "murrain or rotte."

Independent of all the evidences that I have here cited, going to prove that salt is designed as an essential condiment, both for the human and brute creation, we have the unerring instinct of animals to show the demands of nature for this substance. In all parts of the world where salt mines or springs are found, there wild animals congregate, from hundreds of miles distant, to get a supply of salt. In our own country, the Big Bone Licks of Kentucky are noted for their having been the resort of all kinds of wild animals for the purpose of licking the water that issues from the salt springs of that locality. Here, in early ages, those monsters of the wilderness, the mammoth and the mastodon, which have long since become extinct, once congregated in immense numbers, with numerous other species of wild animals, and so eager to supply the demands of nature for salt, that deadly conflicts arose among the various species, and thousands were slain in the vicinity of these "licks," where their bones are still to be found. Numerous other licks in the various parts of the same State show similar evidences of their having been the resort of wild beasts. Deep worn paths leading to the springs are even now, at this day, to be seen, where innumerable herds of buffalo rushed down the declivities in pursuit of salt. H. P. B.

POULTRY-HOUSES.

It is best for the different varieties of fowls to have separate apartments. In a cold climate, to have the hen-house adjoin or be over some office in which there is kept constant fire, is very good, though we admit they are not very silent or desirable neighbors. Any way, make the house capable of as much warmth as possible. The door should open to the south, and above should be a long narrow sash, glazed and protected on the inside with wire netting or a lattice work. This window is for light, and should be removed in summer. On the opposite side there should be another window for ventilation, but placed so as to avoid a draft over the roosts. This should be latticed, and have a board shutter for winter.

The fowls should have access to their house through a trap-door. A pole with a chip cut out or strips nailed on at intervals should lead from this to the roosts. It is well for the roof of the poultry-house to project considerably over; the corners supported with stout posts. This costs little more and affords shelter without confinement to the fowls. It always, particularly on the south side, gives a good place in winter, to put feed, water-troughs, shallow boxes of ashes for wallows, also supplies of gravel, lime, and all etc. necessary for *fowl* comfort in *foul* weather. Sufficient roosts should be provided; it is said those of cedar will not be disturbed by vermin, and we know furriers use cedar boxes as noxious to moths. These roosts should be about two feet apart for barn-yard hens, but farther for turkeys, and not near enough the walls to defile the nests beneath with the droppings, i. e., if one room constitutes your poultry-house, which it usually does outside of books and bird-fancier's arrangements. There certainly should be separate apartments for turkeys, and common hens, and the ducks can be easily accommodated with a little domicil partitioned off from the turkey-house, for they seldom make any other use of their apartment except to lodge in it.

Nests of long boxes divided into compartments of about eighteen inches, with a narrow strip at the bottom front, and a cover above, are as good as any. But the most successful poultry-house which we ever entered, was a perfect chaos of old bones, baskets, barrels, &c. The hens seemed to revel in the confusion, availing themselves of all the cuddies and crannies of this nondescript apartment for making their nests in, and fancied secresy. The truth is, in the successful management of all animals, our aim should be not to thwart but guide their instincts into the ways most profitable to ourselves. Hence if you have no poultry-yard, and allow your fowls free range, notice their fancies, provide a dry nest and nest-egg, and verily your gains will probably exceed in the poultry line those of the most completely fixed fancy hen-wife. But that your garden and flowers shall equal her's, I will not indorse.

Always keep on hand for nests, dry leaves or grass; hay is rather stiff, and if you use straw the hens will scratch it out in search of grain.

To have your hen-house rat-proof should be your anxious care. To have the floor even extending a foot or more beyond the foundation, is a good precaution. This, covered with a coat of tough clay, pounded down firmly and smooth, makes a good floor. To build on blocks set considerably under the corners, is likewise safe, but makes an exceedingly cold habitation.

Your houses should be all thoroughly cleansed and whitewashed in the spring, nests scalded out and whitewashed. This for the hen-house, should be repeated several times, and in old decaying ones at least once a month.

All your fowl-houses should be swept—walls and floors—weekly, and lime sifted over the floors. Whenever a young brood is taken out of a nest, purify it thoroughly. Keep an ample supply of clean inviting looking nests for your hens, well supplied with nest-eggs, for it is desirable to let your hens keep and brood in the nest of their own choice. None but careful quiet persons should be allowed to attend poultry, and enter their houses. The afternoon is the best time to visit the house, when the laying is chiefly over.

In your egg-basket keep a memorandum book and pencil, to mark the eggs you set and the date of the setting. If you find a hen on for two or three successive days in the confirmed notion of brooding, allow her from 15 to 24 eggs, according to her size and the season. Always set two hens at a time, so when they hatch you may give all the chickens to one. If more hens than one lay in the nest you wish to set one in, tack a piece of board with a leather hinge, so as to make a door large enough to exclude the intruding hens, but not the air. When you make your daily visit for eggs, be sure to let off all setters thus confined, and be sure that they find food, water, and dry wallows convenient.

All varieties of hens set 21 days. The shells should be taken from the nests as cast off by the young ones, and particular care be taken to prevent the mother from being disturbed, and the young ones from straying about the hen-house; they are not only apt to be killed, but draw from their nests all the inexperienced young setters in the room. Every hen should have her separate coop for her young, and be kept in it for a few days, until her chickens are strong and she is used to the coop herself. In these coops the broods should be all fed very early in the morning, turned out after the dew is off, and the coop left so they can house themselves at night, which they will very soon learn with care. A well bred hen will roost and lay in the place of her own choice, and use the same coop for the term of her natural life, if she is not disturbed, and it is kept invitingly for her.

Kentucky. A HOUSEKEEPER.

Sales of Stock.—In addition to the sales previously noticed we learn that Mr. Samuel Thorne has sold to H. G. White, South Framingham, Mass., the Short-Horn cow "Rowena" by Barrington, 1229, dam Double Rose by Double Duke, 1451½—also "Rowena 2d" by Hotspur, 4030, dam Rowena as above, and nine head of breeding swine of improved Essex blood, from stock imported from the pens of Thos. Crisp, England. Mr. White has also purchased of G. H. Brown of Duchess Co., the roan heifer "Lady Susan 2d" by Sir Guy, dam Lady Susan by Hotspur, 4030, and has sold to Mr. Sam'l Appleton (who recently purchased the farm of H. H. Peters, Southboro', Mass.) the following Short-Horns: Dora Haines by Marmion, 1843; Brighteyes 20th, by Monitor, 5019; Lizzie 2d, by Imperial Duke (18083); Bianca 4th, by Marmion, 1843, dam imported Bianca; Aurora 2d, by Matadore, 5002, dam imported Aurora. Paoli Lathrop of South Hadley Falls, Mass., has also sold to Mr. Appleton the following Short-Horn heifers: Lady Sale 9th, by Comet, 3772; Yellow Rose by Mameluke, 3114; Yellow Rose 2d, by Monita, 5019. Mr. Appleton has selected as a stock animal the three year old Duchess and Princess bull Matadore, 5002, bred by Sam'l Thorne, got by 3d Duke of Thorndale, 2789, (17749)—out of imported Minerva 4th.

What is most useful is generally least exhilarating Light has no color, water no taste, air no odor.

THE CULTIVATOR.

ALBANY, N. Y., JULY, 1865.

Ohio.—We have received from W. F. GREER, Esq., of the Ohio State Board of Agriculture, an account of the proceedings at a recent meeting of that Board to make arrangements for the coming State Fair at Columbus, Sept. 12–15th next. Mr. G. expresses much regret that the New-York State Fair is also appointed for that week, thus preventing the attendance of gentlemen desiring to be present at both. He says: "You will notice we offer on Horses two premiums of $100 each; on Cattle, for best bull $100, and a herd prize of $200 for best bull and five cows; on Sheep, for five wool ram $50, for five ewes $50, single ewe $25—for long wool ram and ewe $25 each."

The Board appointed a committee consisting of Messrs. Jones, Fullington and Greer, to carry out the suggestions of the Agricultural Convention, relative to ascertaining the amount of shrinkage upon "fine wool." They propose to offer a premium of $20 for the heaviest fleece of scoured wool from rams, and the same amount for ewe's fleece. The fleeces to be presented unwashed, with an affidavit as to the time of shearing in 1864 and '65. The scouring to be done under the supervision of the Committee, who will weigh and number each fleece and send them to factory for cleansing, without the names of the owners.

The premiums in the class of machinery are very largely increased, and a large number of new ones offered. In the matter of Sorgho machinery, all articles exhibited must be shown in operation. The premium on evaporators has been doubled. The evaporators will be required to manufacture at least half a barrel of syrup under the supervision of the committee on this class. Cane will be furnished for this purpose free of charge upon the grounds. The premiums on grain and flour were materially increased. The cheese classes were essentially modified and extended: a class of factory made cheese was added, and for the best and largest display, a silver medal will be awarded. In the Horticultural Department, vegetables, roots, &c., premiums are offered to the amount of $800.

As to the prospects of the season in Ohio, Mr. G. writes: "Grasses and grain are looking unusually well. Apples and cherries are promising a plentiful yield, also pears. It is getting quite dry; have had no rain since the 17th of May. Wool buyers talk of wool starting at 50c. It will move exceedingly slow at that rate; nothing under 75c. to 80c. will move the great bulk of Ohio wools for some time."

Death of Edmund Ruffin.—The telegraph makes the following announcement:

WASHINGTON, June 21.—EDMUND RUFFIN of Virginia, who fired the first gun on Fort Sumter, is dead. He committed suicide near Richmond on Saturday last, by blowing his head off with a gun. A memorandum was found among his papers, stating that he could not live under the Government of the United States: that he preferred death to doing so.

Mr. Ruffin, whose untimely end is thus chronicled, was formerly an extensive planter in Virginia, and by his writings and example did more probably than any other man for the improvement of the planting interest of that State. In 1833, he commenced the publication of the *Farmers' Register*—a monthly of 64 pages—at Richmond. This work he continued with great success and usefulness for ten years, when he transferred it to THOS. S. PLEASANTS, by whom it was continued for some years. After Mr. R.'s retirement from the Register, we heard little of him until the spring of 1861; when the papers stated that he hurried from Virginia to Charleston, that he might secure the *honor* of firing the first rebel gun on Fort Sumter.

Death of "Vermont Hambletonian."—This celebrated stallion died on Sunday 18th, at the farm of J. H. Chapin, Esq., near Bennington, Vt., at the age of 18 years. He was descended directly on the part of sire and dam from imported Messenger, and his colts retain much of the game and lasting qualities of the thorough-bred. He was justly regarded among judges as one of the best stock horses as a sire of trotters in this country. His loss will be seriously felt among the breeders and farmers in Vermont, as his colts readily commanded the highest prices, even from ordinary dams. Indeed, so much have they been sought after, that there is scarcely one to be found of mature age that can be had for "love or money." Efforts are now being made to replace him by a promising son of his—which went West some years ago—and it is to be hoped the effort will be successful.

Advertisements.—"Mason's Patent Fruit Jar," advertised by a company in New-York, we tested last season in the actual use of a considerable number for putting up both fruit and vegetables. It is decidedly the best thing of its kind we have seen.

Piano Fortes.—Our readers will have noticed the advertisement of these instruments by Mr. MCCAMMON of this city, which has appeared in our columns for some months. From a personal knowledge of their merits we can commend them in the highest terms. In sweetness of tone, perfection of touch, beauty of finish, price and durability, the "Boardman & Gray Piano," as made by Mr. M., challenges comparison with any instrument of American manufacture we have ever seen, and has elicited the highest praises from our most cultivated musicians.

Cleansed Weight of a Heavy Fleece.—The ram "Young Gold-Drop," bought of Edwin Hammond & Son last September, by Messrs. Isaac V. Baker, Jr., and E. W. Harrigan of Comstock's Landing, N. Y., was shorn the day his fleece was of one year's growth, and the fleece was taken to a neighboring factory and cleansed. The certificate below will give the figures. The owners are awaiting with some anxiety the report from the Canandaigua fleeces that were to be cleansed, as they are of the opinion that their ram will stand near the head if not quite there.

FORT ANN WOOLEN MILLS, May 29th, 1865.

We certify that we cleansed the fleece brought us by Messrs. Baker and Harrigan, shorn from "Young Gold-Drop," weighing in gross 23¾ pounds, which on being properly cleansed weighed seven (7) pounds.

SAMUEL LAMB & CO.

The Southern Cultivator.—The publishers of the Southern Cultivator, now issued monthly at Athens, Georgia, by D. REDMOND and WM. N. WHITE, desire us to state that they will be glad to place again upon their exchange list the journals formerly there, and any other agricultural, horticultural or literary papers of the country that indicate a desire to exchange, by sending on copies of their publications addressed Southern Cultivator, Athens, Ga. With *Rural* journals, back numbers would be exchanged from January, 1864, to date, if desired.

REMEDY FOR THE SCOUR IN LAMBS.—Take the seed of the common dock, make a strong decoction, sweeten with loaf sugar, add half a teaspoonful cayenne pepper to the quart. Give to each lamb a wine-glassful three or four times a day until a cure is effected.

Cultivating Corn.—The old fashioned mode with industrious and thrifty farmers, was formerly to *hoe three times*,—the hoeing being regarded as the most important part of the cultivating process,—stirring with horse-cultivator being then in little repute. The relative importance of each has now become reversed. Hoeing by hand extends only a few inches from the plants, and is of small moment when compared to keeping all the intermediate space clean and mellow. Farmers who keep their land clear from the seeds of weeds, find it scarcely necessary to hand-hoe it at all; but obtain the most satisfactory results by keeping the surface stirred throughout the season by horse labor. If corn is planted in hills three feet apart, the roots need enter but a foot and a half each way to meet each other. Each square has a surface of nine superficial feet. If the hoeing loosens or cleans one square foot of soil about each hill, then it performs only *one-ninth* as much good as the horse cultivating—and only one *thirty-sixth* if the hoed portion is only six inches square.

One of the best farmers with whom we are acquainted cultivates his corn once a week, from the time it first makes its appearance till it has become too large for the horse to pass—the soil being rather strong and heavy, the crust is kept constantly broken, and the crop is usually about 70 bushels per acre. This treatment also prevents the too common evil of a profusion of weeds among the plants, towards the latter part of the season.

Hilling Potatoes.—A diversity of opinion exists on this subject, but if cultivators would look at the results, they would doubtless become satisfied as to its propriety and the best time to perform the work.

Potatoes when planted, should not be buried so deep as to prevent the young shoots from readily reaching the surface. Yet some depth is required in order that the young tubers may form in the soil, and not on or very near the surface, when they become green and bitter by exposure to light. Plant, therefore, in rather deep furrows, and cover moderately. In cultivating, the soil will work into these furrows and somewhat deepen the covering. The young tubers will form and grow without disturbance. If the earth is now hilled much, new and later tubers will form higher or above the first, producing too many, and irregular in size. The best way is to leave the soil nearly flat till the middle or latter part of summer, when the potatoes begin to assume considerable size, and to protrude towards the surface. Now is the time for hilling—which is, in effect, nothing more than *mulching* the roots to protect them from light, and to prevent them from becoming green.

We recommend cultivators to try this treatment, the present being a proper time for the first part of the process, namely, the continuance of the flat cultivation.

The Decrease of Cattle.—A correspondent from Iowa writes us: "I notice in many of the papers attempts to account for the decrease of cattle alleged to be going on through the country. There is one cause at work here which I have not seen alluded to as yet by any one. Milch cows are becoming very scarce, which is the result of a practice getting to be very common, especially among the larger cattle men, of spaying everything of the female kind in their yards, both cattle and hogs,—spayed heifers make the nicest of beef, and spayed sows the best of pork,—they will buy up large numbers of heifers, young or old, spay them, keep for a year or two, and then fatten. Heretofore the great profit of cattle feeding has been in buying stock cattle at a low price, and making by the rise per pound when fatted. It has never paid to *raise* stock. Cattle men have never paid so much, or a little more, for stock cattle in the fall as they get for fat beef in the spring, depending for profit on the manure, as they do in Europe—perhaps some day they may."

Obituary.—Wm. Buckminster, who established the Massachusetts Ploughman in 1841, and continued in charge of its editorial columns until nearly the close of the year 1862, died at his residence at Framingham on the 9th inst., in his 82d year. Mr. B. was educated at Harvard, and was a lawyer by profession. He remained in practice until a short time before the establishment of the Ploughman, when his natural taste for rural pursuits led to the purchase of the farm on which he was born, and where he has always since resided. He was cautious in forming, and firm in maintaining an opinion, but possessed in a high degree the confidence of the community, and was a highly valued and useful member of the agricultural press.

Shrinkage of Merino Fleeces.—A correspondent of the Prairie Farmer sends to that journal the following table as the result of a sheep shearing which took place in Parke Co., Ind., May 27th. Some of the sheep had been sheltered, others had not. "The several fleeces were scoured and dried at a woolen factory, in the neighborhood, and were weighed accurately before and after scouring, as I can of a truth testify, being present at both weighings. Now for the result:"

Nos.	Age of Sheep. Years.	Weight of Sheep. lbs.	oz	Gross weight of Wool. lbs.	oz.	Net Weight. lbs.	oz.
1,........	2	78	—	10	6	4	2
2,........	1	80	8	10	7½	4	3
3,........	2	126	—	10	11½	4	6
4,........	2	96	—	15	1	4	5
5,........	1	74	—	8	8½	3	1
6,.... ..	4	107	8	9	13½	3	15
7,........	1	67	—	8	1	2	15
8,........	4	162	8	15	3½	4	12½
9,........	1	70	8	14	5½	3	7½
10,........	1	50	—	8	7	3	9

Taking the 10 fleeces together we find that their average weight, as shorn, was 11 lbs. 1 oz.—the average as cleansed was 3 lbs. 14 oz.—a shrinkage of a fraction over 65 per cent., or *not quite two-thirds* waste to *one-third wool.*

Fine Strawberries.—The largest and finest Strawberries we have seen this season, are sent us as we go to press, by Mr. J. Dingwall, florist, of this city. They are the "La Constante," which Mr. D. says is the most remarkable variety he has ever grown for size and productiveness. Half a dozen of the strawberries sent us, taken at random, weigh a small fraction less than four ounces, and are from one inch and a quarter to an inch and three-quarters in diameter.

Agricultural Societies.—The next show of the Ulster Co. Ag. Society, is appointed for Sept. 20–22d, at Kingston.

The Michigan State Fair for 1865, has been located at Adrian, and will take place Sept. 19th–22d.

The Hendricks (Ind.) Co. Fair, will be held at Danville, Indiana, September 26th–29th.

The Hampshire, Franklin, and Hampden, Mass., Ag. Society, have completed arrangements for their next show at Northampton, Oct. 5, 6—A. P. Peck, Secretary.

The Bucks Co., Penn., Ag. Society have appointed their next show for Sept. 26, 27—at Newtown, we presume.

An Agricultural Society has been organized at Doylestown, Bucks Co., Pa., with a proposed capital of $40,000, divided into shares of $10 each. The grounds, comprising something more than 20 acres, are to be put into the concern by the present holders at a valuation of $8,000. A good portion of the stock has already been taken, and the enterprise gives promise of success. President—Dr. Isaiah Michener.

New Books.—"Woodward's Graperies and Horticultural Buildings," is the title of a valuable Manual just issued at the Office of The Horticulturist, New-York. It will be found a most welcome addition to our horticultural literature, the authors, Messrs. Geo. E. and F. W. Woodward, being fully qualified by long experience as architects and horticulturists, to prepare simple and complete designs to meet the wants of builders on any desired scale. The present volume after treating of the position, forms and modes of heating, of horticultural structures, and their construction, takes them up successively, from the hot-bed and cold pit, to the propagating house, green house, grapery, orchard house, &c., including a score or more of designs, with full illustrations. [Price $1.50, by mail post free.

The Sixth, Seventh, Eighth and Ninth Reports of Dr. Asa Fitch, Entomologist of the State Agricultural Society, on the Noxious, Beneficial and other Insects of New-York, have been published in a volume of over 250 pages with many valuable illustrations and plates. We need hardly commend the labors of Dr. F. to our readers, who are already quite familiar with the carefulness, zeal and success with which these researches have been conducted under the State appropriation for the purpose, for ten years past. There will be many glad to procure copies of the present volume, the edition of which is limited. It may be had at the Agricultural Rooms in this city, or at this Office, for $1.50, or $1.75 if sent by mail post paid.

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Dr. Trimble on the Insect Enemies of Fruit Trees.—This new and beautiful work should be read by every fruit-raiser. It is a neat and handsome quarto volume of 150 pages, and contains eleven colored plates, each with several figures. These figures show with great accuracy and distinctness the work of the insects on the different fruits; and the insects themselves are readily recognized by the eye, without a scientific description. It is not intended as a strictly scientific work; it is free from technical terms, and embodies in a colloquial style a vast amount of practical information, from the author's own knowledge. Dr. Trimble has not compiled this book from the writings of others, and there are very few instances where he has advanced opinions not fully sustained by facts. This is the first of an intended series, and embraces only the Curculio and Apple-worm.

The mechanical execution of this work would do honor to any establishment. It is published by William Wood & Co., of New-York.

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Weeds in Gravel Walks.—We have frequent inquiries on this subject. There are different modes of preventing their growth. When thoroughly constructed by first digging a trench a foot deep and then filling it with gravel or fine broken stone, thoroughly rammed down before the fine gravel is applied to the surface, it will be a long time before weeds will have much foothold. The grass will, however, gradually work in at the edges, the fine roots passing between the stone and among the gravel. As the surface becomes worn and pulverized it assumes the character of soil, and small seeds in wet weather will take root. If the walk has been made by merely cutting a path in the soil and filling it with two or three inches of gravel, weeds and grass will more speedily infest it, and the only way to get rid of them is by the use of a sharp hoe, garden rake and heavy roller.

Very durable walks, which will neither wash nor allow the growth of weeds, are made by mixing coarse gravel or sand with gas tar. The latter being waterproof, such walks are never broken by frost. But there is one serious inconvenience—in hot weather the odor of the tar is decidedly offensive, and this result continues even for years after they are constructed. A covering with an inch or two of fine gravel lessens or nearly destroys this bad effect, and the tar below prevents weeds from finding their way upwards. Where broken stone is used the weeds may be prevented from growing by applying water-lime cement. If the sharpest and cleanest sand is used with the best water-lime, it will become so hard and perfect as not to be affected by frost; but if the cement is poor, or of a medium character, freezing and thawing will gradually reduce it to powder.

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Washington County Wool-Growers' Association.—We have already referred to the success of the exhibition and public shearing of this Society, which took place at North Granville, May 4th and 5th, when the following prizes were awarded, as just published in neat pamphlet form, with the constitution and regulations under which the Show was held:

First Division—As regards Quality of Wool.

Ram Lambs—1. R. S. Holley, Adamsville,	$2
Rams one year and over—1. B. M. Wing, Granville,	2.
3 Ewe Lambs—1. H. W. Beckwith, W. Granville Corners,	2
3 Yearling Ewes—1. Bryan J. Lawrence, West Granville,	2
3 Breeding Ewes, two years and over—1. Baker & Harrigan, Comstock's Landing,	2

Second Division—As regards Quantity of Wool.

Ram Lambs—1. H. W. Beckwith,	$2
3 Ewe Lambs—1. do. do.	2
3 yearling Ewes—1. Geo. H. Buell, Whitehall,	2

Third Division—As regards Symmetry of Carcass..

Ram Lambs—1. H. W. Beckwith,	$2
3 Ewe Lambs—1. do. do.	2
3 Yearling Ewes—1. Bryan J. Lawrence,	2

Fourth and highest Division—As regards the above Qualities combined.

Ram Lambs—1. T. S. Steele, Shushan,	$4
2. Bryan J. Lawrence,	2
Rams one year and over—1. W. H. Wright, Whitehall,	4
2. Baker & Harrigan,	2
3 Ewe Lambs—1. Hotchkiss & Stoddard, Hampton,	4
2. Deliverance Rogers, Granville.	2
3 Yearling Ewes—1. Hannibal Spring, Whitehall,	4
2. Geo. Kingsley, Whitehall,	2
3 Breeding Ewes—1. Bloomfield Russell, Hartford,	4
2. Hiram Brayton, Hartford,	2

The Judges on Ram Lambs also commend those shown by Thos. Cree, North Granville, and Hiram Hotchkiss, Hampton, as worthy of especial mention. The Judges on Breeding Ewes note a pen of five shown in this class by E. R. Cross, Shaftsbury, Vt., as only not entitled to a premium owing to the non-residence of the exhibitor. The total entries were as follows:

1st class—		Ram Lambs,	16	entries,	16	sheep.
2d	do.	Rams one year and over,	30	do.	30	do.
3d	do.	3 Ewe Lambs.	12	do.	38	do.
4th	do.	3 Yearling Ewes,	6	do.	20	do.
5th	do.	3 Breeding Ewes,	6	do.	20	do.

There were also many sheep shown not for competition.

On the sheep shorn in competition, the 1st prize for ram lambs was awarded out of a class of five, to Hiram Sheels, Whitehall—weight of sheep 92 lbs.—of fleece, 15½ lbs. On rams one year old and over, in a class of seven, to Viele & Marshall, Saratoga county—weight of sheep 94 lbs.—of fleece, 24 lbs. On ewe lambs to D. Rogers, Granville, and on breeding ewes to E. B. Cross, Shaftsbury, Vt. The average weight of the twelve rams and ram lambs shorn, was 101 lbs.—average weight of their fleeces, 18 lbs. 7 oz.

The Report of the Exhibition as published is highly creditable to the officers of the Association, and shows that its management has been entered upon in a spirit affording good promise of future usefulness.

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Merino Ram for Iowa.—J. S. Mardls, Esq., of Lowden, Cedar Co., Iowa, has purchased a four year old ram of Isaac V. Baker, Jr., Comstock's Landing, N. Y. The ram was purchased to improve Mr. Mardis' large flock of grade ewes. He is said to be an extra good stock ram.

Inquiries and Answers.

Fermentation of Manure.—In the first volume of the CULTIVATOR, at page 7, in an address delivered before the State Ag. Society, under the head of manures, the speaker says, "that barn-yard dung loses a large portion of its fertilizing properties, in the gases which escape where fermentation is suffered to exhaust its powers upon it in a mass." Now, Messrs. Editors, the query with me is this, does manure lose anything by fermentation and the escape of the gases; or in other words, are these gases food for plants? I think this volatile odor that escapes from decomposing animal or vegetable substances must first arise, and therein the great atmospheric laboratory be prepared for the food of plants, and then fall in the form of dews and rain. These queries have never been satisfactorily answered in the minds of the "*plebeian farmers.*" Will the Editors give us more light on this most important branch of practical farming—should manure be used green, or suffered to get ripe before it is used? LOUIS P. LEGG. *Tioga Co., N. Y.* [The valuable parts of manure consist of its volatile as well as its soluble and not volatile materials. If there is nothing to retain the volatile parts during fermentation, such as straw, loam, peat, &c., a considerable portion will obviously be lost. The most perfect manure is that which is fermented with enough absorbing materials to retain all that is valuable. Ordinarily with common yard manure, there is enough of coarse material mixed with it to absorb most of the gases before their escape. Hence there is usually less loss in this way than many suppose. Where, however, it is allowed to escape largely, the farmer will not be likely to receive much back again, as it will probably rise high in the air, and be carried hundreds of leagues by winds over mountains and forests, and perhaps be absorbed by the ocean.]

Refuse Coal, &c., as Manure.—Would fine charcoal, the refuse of coal pits, be of much benefit if applied to young apple trees? I have an orchard of 500 trees set out four years since, and this charcoal was burnt—and has been exposed to the weather ever since—last season, and is one mile from my place. Would it pay to draw and apply a bushel to each tree? J. D. K. *Putnam Co., N. Y.* [Charcoal, after being long exposed to the air, loses its absorbing power, and becomes less valuable. The various refuse matters from old charcoal pits, contain a considerable quantity of fertilizing matter, as is shown by the strong growth sustained on such spots for years afterwards; but if spread broadcast over the roots of trees, or worked in, it will produce less sensible results than manure or compost, or the mellow cultivation of the surface.]

Wagon Wheels.—Why are the hind wheels of a wagon made larger than the forward wheels? L. P. L. [To facilitate turning, by allowing more room for the forward machinery.]

Churning.—Will you please give your opinion which process makes the better butter, to churn the milk and cream together, or to churn the cream alone. This is a mooted question among the dairymen in this locality, which would be a nice thing to finally settle, if it could be effectually done. L. P. L. *Tioga County.* [An article will be found on page 335 of this paper of May 25th, taking very strong ground in favor of churning the milk and cream together. But we do not refer to it as decisively settling the question by any means, although our own opinion has been this: That while somewhat *more* butter may be obtained by churning milk and cream together, arising from the greater certainty of securing all there is in them,—on the other hand, except by the most careful management, the *quality* of the butter is *likely* to be superior when made from the cream alone. We have seen dairies of very superior character, however, where it was customary to churn both, and yet the majority of the best and largest butter makers, so far as our experience goes, lean perhaps to the other side.]

Grass Seed.—Having heard that the Orchard grass is a hardy plant, I propose sowing sixteen acres with it, now in wheat and oats. My plan is to plow in September, harrow thoroughly, and sow Orchard grass and Timothy. How many bushels must I sow of each kind? Would Kentucky Blue grass be a good addition to the above for cattle or sheep pasture? If so, in what proportion to the other seed? Where can Orchard and Blue Grass be obtained? F. H. A. *Penn Yan, N. Y.* [Orchard grass being very light and chaffy, a bushel or two is usually required for an acre when sowed alone—about eight quarts of Timothy seed, and six quarts of Kentucky Blue grass. If sown together the quantity of seed of each would be correspondingly less. As Orchard grass is a strong grower, and forms a stiff, rough turf, it is doubtful whether the two other sorts would generally mix well with it as a crop. Orchard and Blue grass seed can probably be obtained only of the large city agricultural seed stores, for instance of J. M. Thorburn & Co., New-York.]

Muck.—Would not muck make a fertilizer equal to yard manure, by spreading it over the yards to the depth of a foot, before shutting up the stock, by absorbing the liquid manure drenched down by the rain. W. [Wet muck, as it usually occurs, is nearly nine-tenths water. If made perfectly dry it will consequently absorb nearly nine times its weight of water or liquid manure. If therefore it be placed on a sheltered barn-yard, or under a shed, it is capable of absorbing a great deal of concentrated liquid manure, and of then becoming a powerful fertilizer. If free from straw or other fibrous matter, it will spread easily, and may be thoroughly intermixed with the soil. If the amount of rain which falls is only sufficient to wash down the liquid manure into the muck without overcharging it with water, the result will still be quite successful; but if the muck is placed quite wet upon the yard, or if there is an abundance of water overflowing, it will be of comparatively little use.]

Bee-Books.—I would like to know where I could obtain the best work on the general management of bees, and who is the author. G. H. *Frederick, Md.* [Langstroth's and Quinby's are the two best works on bees—the price of the former $2—the latter $1.50. We can send them.]

Churns.—My father has lately purchased a small place in the country, and intends keeping a cow for the purpose of supplying the family with milk and butter. Will you please inform me through your paper, which you consider the best churn to use where only one cow is kept? By doing so you will much oblige S. E. H. *Newark, N. J.* [Kendall's cylinder crank churn, No. 2, is probably the best for your purpose. It can be procured at the agricultural or wooden warehouses for about $3.]

Eccaleobion.—Will you please inform me where I can obtain an American egg-hatching machine, or any information regarding it? ELISHA HUBBARD. *Middletown, Conn.* [Contrivances for this purpose have been put in operation, by which chickens have been produced, but we have never seen or heard of one which could be rendered practically useful.]

Poultry.—I wish to know the best method of keeping hens, and what is the best feed, and how many can be kept in a building, 50 by 60 feet, containing 3,000 sq. ft., and do well; and out of, say 4,000, what portion of them would lay every day, and in the laying season what portion of the year might reasonably be figured upon for them to lay; and also give statistics as near as possible, what has been the average price of eggs for the last six years, and price of chickens per pound for the same time, and about what amount of corn, wheat or buckwheat it would take to keep one hundred per day? A SUBSCRIBER. *Alburgh, Vt.* [If our correspondent will read over the poultry articles which have appeared in this paper during the past year, he will find all the information we can give in answer to his questions. If, however, any of our readers can enlighten him, we shall be glad to hear from them.]

Stump-Puller.—Can you inform me where Willis' Stump Machine is made, whether it is still a patent, also the price? It is the same as is described in the ANNUAL REGISTER for 1855. H. H. K. [The patent on this machine is still in force we presume, but are not aware that it is now manufactured—the inventor if we are not mistaken having met with pecuniary difficulties some years ago.]

Hay Sweep.—It would gratify and advantage your readers if you would publish, in a very early number of your paper, the description and accompanying cut of the "hay-drag," which you published about this time last year. SAML. CLAY. *Woodford Co., Ky.* [As we are unable to comply with this request, owing to the disappearance of the engravings, we refer all interested in the matter to our ANNUAL REGISTER for 1862, p. 180, where the engravings and a full description will be found.]

Wild Onions.—In your number for May 25th there is an inquiry for the best mode for destroying wild onions. I have found that buckwheat sown in May or June on well pulverised land will kill all the weeds and leave the ground in first-rate order, and clean. My practice has been to sow the buckwheat about June 1st, let it get about one foot high, or let it stand until the 1st August, then plow it under and sow winter grain, say Sept. 1st, and seed with the different grasses wanted. B. *New-York.*

Transplanting Currant Bushes.—If currant bushes are to be transplanted, is it not the best time to perform this work as soon as the fruit is ripe and the bushes done growing? A friend tells me that if currant cuttings are planted the last of August, roots will start before cold weather sets in, and a greater growth may be obtained the following season than if not planted till spring. Is it so? Jersey Lake. [Currant bushes can be transplanted any time when not in a growing condition. If done when the leaves are green, they should be stripped off, unless the roots are lifted out entire. Cuttings are better if made in autumn before the leaves fall than if taken off the following spring. They will form a callous and frequently some roots before winter.]

Deep Plowing.—I have been watching some time for an essay on deep plowing. Will you, Messrs. Editors, please enlighten me? Is deep plowing recommended in all cases? If not, under what circumstances should it be avoided? If there is any recognized philosophy on the subject, I would like to understand it. A. D. C. *Lynchburg, Ohio.* [Deep plowing must be controlled very much by circumstances. A deep soil is always better than a shallow one, other things being equal, because the roots of plants have a better chance to extend themselves, derive a larger amount of nourishment, and such soils are less affected by wet seasons or severe drouth. If the top soil is rich and the subsoil is sterile, the latter should be stirred only by subsoiling, and not brought to the surface, unless in small successive quantities, until by repeated manuring, its fertility is gradually deepened. If the subsoil is rich, it may be brought up by trench plowing, with or without previous subsoiling, and mixed advantageously with the surface.]

Buckwheat for Feeding Stock.—I notice in Co. Gent. for May 18, a piece relative to feeding buckwheat. All the grain I fed last winter to 30 head of cattle, 100 sheep, and my horses, swine and fowls, consisted of one-third buckwheat, the balance being of corn and oats, equal quantities. I saw no effect of the kind mentioned from its use. My stock did remarkably well, and although I had been warned against feeding it to sheep, lest it started the wool, I found them less ragged than other flocks where none had been used. Some years since, having a quantity of buckwheat straw, I bedded my hogs upon it; they soon began to break out, mostly upon the bellies, and some of them very badly. Upon removing it and substituting wheat straw, it disappeared in a few days. Does not Mr. John Johnston feed buckwheat to his sheep in winter? If so, his opinion would be valuable to us. H. G. W. *South Framingham, Mass.*

Cheese Factories.—Correspondents wishing to erect a factory in Canada East, inquire where to go for the sake of visiting one in operation with latest improvements. In the vicinity of Utica and Rome, in this State, they would be likely to secure all desired information. The Railroad Freight Agent at the latter point could probably direct them to the nearest factories in that neighborhood, and at Utica they can inquire of W. H. Comstock, Secretary Cheese Manufacturers' Association.

Why Don't the Butter Gather?—Having had some experience with different cows and butter-making, we are ready to acknowledge that we do not know much about the business, because we have a cow giving about 10 or 11 quarts of milk at a milking, with a good cellar to keep the milk in, and yet in warm weather we are not able to get the butter to gather, but it remains in the butter-milk, looking much like coarse meal. E. S. Fowler. *Bartlett, O., 5th mo.* 26.

Trouble with a Horse's Head.—A mare that I have recently purchased from the government is affected in the following manner: The trouble appears to be in his ear or head, I cannot ascertain which, as there is no sore or anything visible to cause the difficulty. In buckling the bridle or halter she will move her head as far as possible from the hand, and on several occasions, while at work, she has stopped and throwing her head to one side, backed for a considerable time, as though in pain and trying to escape it, and while standing will constantly toss her head. If any of your readers can inform me of the cause, and if possible a remedy, they will greatly oblige A Subscriber. *New-Jersey.*

Dewberry or Running Blackberry.—I wish to know the best way to train the above vines. C. H.

Foreign Notices.

An Important "Event."—We have barely room to announce this week the result of a sale of Short-Horned "Grand Duchesses" and "Grand Dukes" composing the herd of the late Mr. Jos. Hegan of Dawpool near Birkenhead, England, which took place at London, June 7th. Mr. Strafford, the auctioneer, kindly sends us the London Times, which devotes one of its longest and most learned leaders to the text afforded by the occasion, and the Agricultural Gazette, with its fuller and more practical exposition of the affair. With the exception of "Imperial Oxford," which was one of the bulls sent to England two or three years ago by Mr. Thorne, the entire herd of Mr. Hegan was descended from the celebrated cow Duchess 51st, bred by Mr. Bates, at Kirklevington, who purchased Duchess 1st, at Mr. Charles Collings' sale in 1810, the family having originally been obtained from the ancestors of the Duke of Northumberland. In 1862, 13 descendants of Duchess 51st then belonging to Mr. S. E. Bolden, were purchased in one lot by Mr. Hegan for £5,000. Twelve cows were now sold, in lots of three each—the first lot (5, 7, and 8,) sold for 1,900 guineas; the second lot (9, 13, and 18,) for 1,300 guineas; the third lot (10, 15, and 17,) for 1,800 guineas; and the fourth lot (11, 12, and 14,) for 1,200 guineas. The 12 cows thus fetched 6,510*l.*; the average price being 542*l.* 10s. They were all bought by Mr. E. L. Betts of Preston-hall, Kent. The bulls were sold separately. Imperial Oxford was sold for 450 guineas, also to Mr. Betts; Grand Duke 6th was sold for 130 guineas to Mr. Bland of Coldby-hall, Lincoln; Grand Duke 9th, for 310 guineas, to Mr. T. Walker of Birswell-hall, Coventry; Grand Duke 10th, for 600 guineas, to the Duke of Devonshire; and Grand Duke 13th, for 100 guineas, to Captain Gunter of Wetherby-grange. The five bulls thus brought 1,669*l.* 10s., their average price being 333*l.* 18s. The total price of the 17 head of cattle was 8,179*l.* 10s.

The Architect of the First Crystal Palace.—The Gardener's Chronicle of June 10th says:

> "It is with deep sorrow, which will be shared with us by every gardener of high or low degree, that we announce the death of Sir Joseph Paxton, which took place at Sydenham, on the morning of the 8th inst. No word of ours will be needed to increase the regret which will be felt at this sad event by those who had the privilege to know our dear lost friend, of whom it may be truly said, that those who knew him best, will the most deeply mourn his loss."

A New Move.—Various Agricultural Societies in Great Britain have lately shown a disposition to move in the cause of Agricultural Education. The Kingscote Association, for instance, has just made arrangements for a course of lectures on chemistry. Mr. A. B. Church, M. A., Professor of Chemistry in the Royal Agricultural College, Cirencester, has consented to be the instructor of the class, and has already delivered two lectures. Fourteen members have joined. And at the close of each lecture the members receive a paper of questions, to be answered in writing; and are recommended to perform at home certain experiments in illustration of the subject last treated of, as the course proceeds. These experiments will be made to have as direct a reference to agriculture as possible, and will embrace the testing of manures and soils, and the examination of feeding materials and water.

Fowls Changing Color.—The London Field quotes from the Country Gentleman the instances recently described in our columns by Mr. Bement, in which colored fowls changed to white, and adds:

"Some few years since we saw in London a Spanish hen that had been originally perfectly black, but that subsequently moulted white. With so many examples, the fact that colored fowls of different varieties may become purely white, may be considered as perfectly authenticated. It would be very interesting to obtain a pair of such fowls and match them together, to observe the color of the progeny. Our own opinion is, that they would not be white, but would throw back to their more remote ancestry."

How to keep Cattle on Thirty Acres of Land.—One of the most interesting papers in the Journal of the Royal Agricultural Society of England is that in which the Rev. J. L. Brereton relates his experience in the use of bought food upon about thirty acres of grass land, the extent of his glebe. On this small plot about £1,500 worth of stock has been kept by a purchase of food and manure to the amount of nearly £500, that the result is a profit of about £100, besides manure, "worth about £200." The following are Mr. Brereton's conclusions on the question of feeding cattle on bought food:—1. That it is quite possible to feed animals on purchased food alone. 2. That a mixture of the common grains and pulse, *e. g.*, linseed, peas, beans, wheat, &c., may be made for £10 per ton, which will fatten any animal. 3. That the addition of seasoning (aniseed and fenugreek are those that I have used for five years,) at an additional cost of £1 per ton, appears to pay well in the added relish and the improved condition of the animals. 4. That doubling the quantity of linseed, though raising the price, probably gives quite a proportionate increase to the value of the mixture. 5. That by the use of this meal the farmer may fearlessly increase his stock without adding to his acres; and yet, by that increase of stock, greatly increase the productiveness of his farm. This consideration both suggested and replied to the following exclamation of a neighboring farmer:—"Mr. Brereton, if you're doing all this on thirty acres, I'm thinking what's to become of the landlords." 6. That the use of sea-sand as bedding will enable the farmer either to dispense with straw, or to use it more profitably as food; and that besides possessing, according to its quality, manurial properties, the sand acts as a purifier of the land, and seems to allow of a closer herding of stock than might be otherwise safe. 7. That sheep may be folded on grass with great advantage, if some shelter and dry treading are provided in adjacent yards during excessively wet weather; but the bullocks and horses do best in yards and sheds, the grass grown after the fold being cut by the scythe and carried to them.

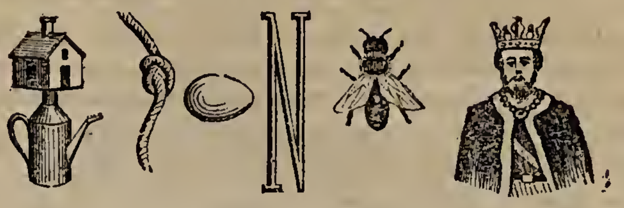
Importation.—We learn from a Boston paper that the Italian barque Sophia, from Constantinople, Oct. 26th, arrived in Boston on the 27th ult., having on board 30 Angora goats, for W. W. Chenery, Esq., of Belmont. Of 30 shipped, only one died on a voyage of 7 months, the original number having been kept good by a kid dropped on the passage.

Canadian Combing Wool.—At a recent Agricultural Meeting at Hamilton, C. W., the price at which the Leicestershire or combing wool mostly produced in Canada West, should be held the present year, being under discussion,—a series of resolutions was adopted, in which the positions were taken, 1. That the supply of this description of wool in Canada does not equal the American demand; 2. That as England is the only source of foreign supply, the price here should be governed by that in Great Britain; 3. That as the cost of duties, transportation, &c., on English wool is equal to 25 cts. per lb., the price of Canadian wool may be set at 10 cts. a lb. above the English price, and still leave a margin of 15c. per lb. as an inducement to purchasers, and, lastly, "that the present price in England being 50 cts., the price in Canada ought therefore to be 60 cts. per lb."

With a view of establishing a regular market day for wool, it was also—

Resolved, That in the opinion of this meeting, it would prove a very great advantage to wool-growers if they would fix upon one day in each week, say Saturday, to bring in their wool for the purpose of inducing wool-growers from a distance to enter into competition with the Hamilton wool-buyers in the purchase of that article.

Illustrated Rebus---No. 19.



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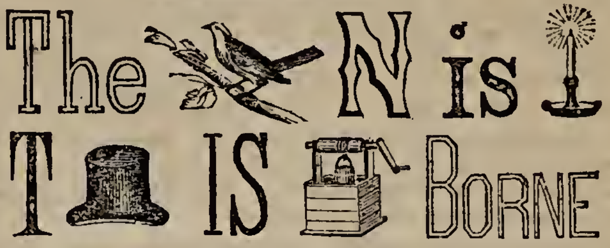

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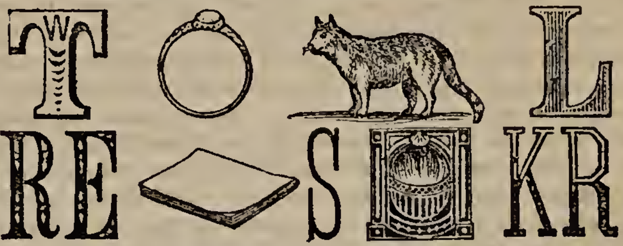

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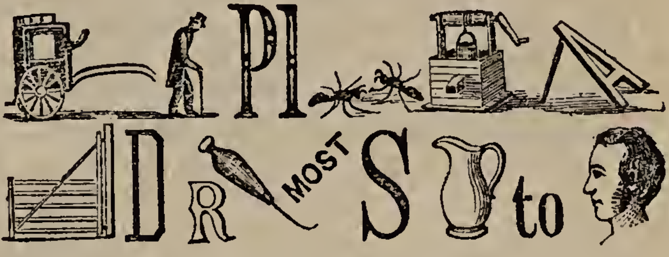

Answers to Illustrated Rebuses.—No. 15. Be-nought-dis-heart-in-d by in-die-gent-s—Success-ful men of-ten beg-in with a very small-capital. "Be not disheartened by indigence. Successful men often begin with a very small capital." No. 16. A knife for an eye, a tooth four a twoth and a life for al eye f, "An eye for an eye, a tooth for a tooth, and a life for a life." No. 17. He w-hoe love-s m-on-eye more th-an-h-on-r will rat-eye-t above honesty. "He who loves money more than honor will rate it above honesty." No. 17. Two-under-stand ewer stud-e-s well, do knot-under-take two-men-e. "To understand your studies well, do not undertake too many."

A Word for the Chester Co. White Hogs.

In the fall of 1863 we procured a pair of Chester Co. pigs. They grew very well through the winter, and in the spring the farmers brought ten sows at $1 each, to our Chester boar, and they were so pleased with their pigs, that last fall there was 54 sows brought to the boar at $2 each, and those pigs are now selling for from $1 to $2 each more than pigs that have no Chester blood in them; and those that patronized the boar last spring and fall have brought their sows again, and are very willing to pay $2 for the service of the boar. We think this speaks well for the Chester breed, for we had all kinds in this section, and they have brought sows to the Chester boar, Suffolk, Maccay, Yorkshire, Berkshire, Essex, Portuguese, and mixtures of those different breeds.

Elgin Spring House, Vt., S. & W. S. Allen.

◆

The product of three crops from 33 grains of oats received in a letter by a farmer in Illinois, measured 370 bushels.

Perfecting the Flavor of our Cheese.

In Mr. WILLARD's annual address before the State Cheese Manufacturers' Association at Utica last winter, just published, with other proceedings, in pamphlet form, the above subject is referred to at some length, and the necessity for still greater care enforced, both as regards factories and private dairies—as well in the treatment of the cows and management of the milk, as in the actual making and curing of the cheese itself. Mr. W. says:

The old factories need remodeling. The new factories should be constructed with particular reference to cleanliness, the avoidance of all taints about the buildings likely to be absorbed by the milk or cheese; and finally, an arrangement of the dry-house, so that some uniformity of temperature be preserved while the cheese is undergoing the process of curing. There are a large number of factories where no attention is paid to these conditions. Whatever wonderful skill is exercised in the management of the milk and in its manufacture into cheese, how is it possible to obtain sweet, clean, and high flavor from milk reeking in emanations from the pig-sty, the stench of putrid whey, or the odors arising from decomposing slops? How is it possible to obtain high flavored cheese in dry-houses so arranged that no uniformity of temperature is preserved from day to day, in a climate like ours, where the thermometer frequently varies from 20 to 30 degrees in twenty-four hours.

My friends, I belong to your class, and am interested in the success of American Cheese Dairying, and I say to you, earnestly and in good faith, that you are asking too much from the manufacturer, to require him to furnish high priced cheese from imperfect milk—milk that is feverish or diseased, or mingled with filth before it leaves the stables. Cleanliness is one of the virtues, and it is imperatively demanded in the production of nice flavored cheese; to say nothing of the vice of forcing on consumers unclean food arising from careless or inattention on your part.

Dogs are a curse among the herds, not only lessening the quantity, but injuring the quality of milk. It is well known that milk, heated and feverish from over driving cows in hot weather, is not a healthy article of food. Cows that are kicked and abused will not secrete good milk, and I have yet to learn that there has been any process of cheese manufacture invented that can convert diseased milk into a healthy diet. Matters of this character should be attended to in every association. Each member should be required to furnish good, clean, healthy milk, with as much watchfulness and care as water dilutions are guarded against.

These are some of the causes that influence flavor. There are others, such as food, water, neglect of salting, &c., &c., which need not be considered in this place. I may remark, however, that Mr. Farrington, for many years a cheese dealer in Herkimer county, and a noted expert in the cheese trade, has affirmed that he could detect the daisy taint in cheese, and was able to tell (with the "tryer" at the store house) when the cheese had been produced on farms overrun with this weed. Leeks, cabbages and turnips give a taint to milk and butter, and it must be evident that this influence of food extends also to cheese.

But a radical change should be introduced in the dry-house. Its location in a pure atmosphere, with thorough ventilation to carry off noxious emanations that are arising from the cheese during its process of curing, are not the only improvements demanded. Temperature should be under control so that fermentation may be carried on with uniformity. It has been claimed that the superiority of English cheese is due in a great measure to the even temperature of the climate, and yet with all this advantage of climate, the Cheddar dairymen pay more attention to the ripening process of their cheese than is done at the American factories. The use of the thermometer is as necessary in the dry-house, as in the milk-room. Large quantities of well-made cheese are badly spoiled in curing. When the weather is just right, the curing process goes on without much trouble, but when it is variable, with extremes of heat and cold, damp and dry weather following in rapid succession, the cheese is more or less out of flavor, and no after treatment will be able to correct the difficulty. The dry-house should not only be arranged with ventilators at the ceiling and wickets at the floors, giving free communication with the air outside, but it should be so constructed, that a low, even temperature be preserved in hot as well as cold weather. The temperature best adapted to curing cheese in order to secure the fine flavor, is from 65 to 70 degrees.

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Proper Time to Cut Grass for Hay.

MESSRS. EDITORS—There is a question as to what age, in respect to growth, grass or clover should be when cut, and how it should be dried, in order to make the *best hay for cattle.* Any one who has had the care of cattle, and been a little observing, may have noticed that when cattle are fed with hay that causes their droppings to be hard and dry, they will not thrive in growth or take on flesh; also that cows so fed, will not give much milk, and their milk will not produce much butter. They may have noticed that this was particularly the case when the cattle were fed with hay, the grass or clover of which had stood in the field until it had died with old age, or been injured by rotting in the making.

I think the proper time to cut grass or clover, is when it has just attained its growth, (clover just coming into blossom,) and while it is yet palatable for feeding—as in soiling when freshly cut and laid before the stock, they will eat it entire, "butts and all," and *fill themselves well.* Grass that becomes unpalatable for feeding, from whatever cause, will not when dried be palatable hay; and hay should be not merely nutritious but palatable, so as to induce cattle to convert as much as possible into bone, flesh and milk.

I think the grass or clover should be dried by air and sun, and not bleached in the least by dew or rain, or allowed to heat in the cock or mow. Either of these rotting processes causes the hay to be less palatable and less nutritious, and harder to digest, and may be likened for feeding cattle, to the use of dozy wood for feeding fires. AMOS FISH.

Bethlehem, N. Y., May, 1865.

◆◆◆

My Remedy for Cucumber Bugs.

I sow cucumbers in rows the same as peas, and using about as many seeds. Plant as soon as the frost is well out of the ground, and when up use the hoe two or three times a day, till the plants get out of the way of the bugs. I have not missed having plants for family, and early, for 25 years.

Dover, Del., June 5, 1865. SHEPPARD SHELL.

◆◆◆

Teaching Hogs to Destroy Thistles.—We copy the following from an Irish journal:—"Tramp on the buds of a goodly number of the largest plants in the spring, and place on the buds a teaspoonful of salt; then turn your hogs on them. They will eat the roots of the salted plants first, and will thus acquire a fondness for them, and will continue to eat them daily as long as they can be found. If but one hog be educated in this way, he will teach the whole herd to eat them, and they will exterminate all on the farm."

FRESH TURNIP SEED BY MAIL.—The new Sweet German Turnip is incomparably the best for winter use and late keeping; seeds prepaid by mail to any part of the country. Priced lists of these and all other desirable Turnips, with directions, will be sent gratis to any address by return of mail. Sow from June 10th to July 20th.

B. M. WATSON,
May 25—w6tm3t. Old Colony Nurseries, Plymouth, Mass.

SUFFOLK PIGS.—Six weeks old; per pair, $25; single ones, $15, boxed and shipped, for sale by

T. L. HARISON,
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$75 PER MONTH and all expenses paid to Sewing Machine Agents. Address
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No. 2. Barritaren. 200 acres, more or less, within 3 miles of Alexandria, and within 8 miles of Washington by land. Two market gardens in successful operation; 70 acres alluvial low land. Three tenement houses on the premises, and abundant and excellent water.

No. 3. Glen Forest, 160 acres, about same distance from Alexandria and Washington by land, divided into four fields of 25 acres each, 12 acres meadow pasture, residue wood. A comfortable tenement house on the premises.

No. 4. Wood lot adjoining No. 2, same distance from Alexandria and Washington; 300 acres, 40 acres meadow, 100 arable land, 100 in upland pasture, eight years sod, and 25 in garden, residue wood. Excellent water and all necessary buildings. Refer for terms, &c., by letter. Address COL. WM. HENRY DAINGERFIELD, Wood Cot, near Washington, or in person on the premises. June 1—w1tm2t.

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The subscriber takes pleasure in announcing that after an absence from the city and country of nearly two years he has returned and assumed the entire interest in and to the Stock, Business and Interests of the ALBANY AGRICULTURAL WORKS, situated on Hamilton, Liberty and Union Streets, and also of the AGRICULTURAL WAREHOUSE AND SEED STORE on State Street, and continues the business of the same solely upon his individual account and management. He has greatly improved and increased his facilities for manufacturing, and is better than ever prepared to supply all articles in his line, of a superior quality and upon the most reasonable terms.

He has also REMOVED the entire Stock and Fixtures of the WAREHOUSE AND SEED STORE from the old stand in State-Street, up stairs, to Nos. 14 & 16 GREEN-STREET, and replenished the stock of Implements and Seeds, with the best of its kind, all of which he offers to the public upon the most reasonable terms.

Having been the pioneer in the business of introducing, manufacturing and selling of improved Agricultural Machinery and Implements and Seeds in this city, and devoted twenty years here to the business, he solicits a continuance of the liberal patronage heretofore enjoyed by him and his successors in these Works and business. HORACE L. EMERY,

Sole Proprietor and Manager of the Albany Agricultural Works, Warehouse and Seed Store, Hamilton, corner Liberty and Union streets, and Nos. 14 and 16 Green street, near corner State-Street, Albany, N. Y. May 11—w8tm2t.

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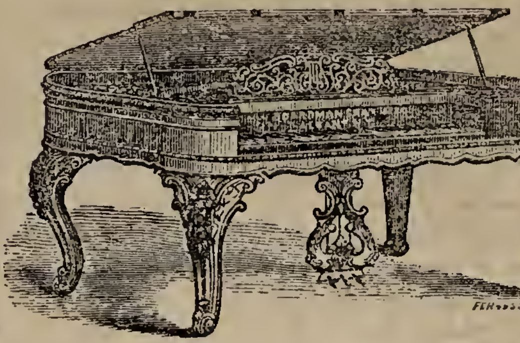

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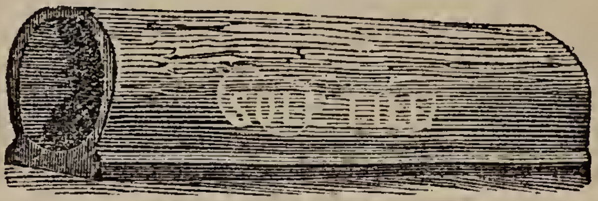

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CHESTER WHITE PIGS in pairs not akin, at fair prices. Address H. C. GRAFF,
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March 16—wtf. SAMUEL FAILE.

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II. Of Dealers and Agents—Name, P. O., County. State; Names of Nurserymen for whom acting; extent of territory furnished or canvassed, (Nurserymen are requested to furnish this information of *all their authorized agents.*)

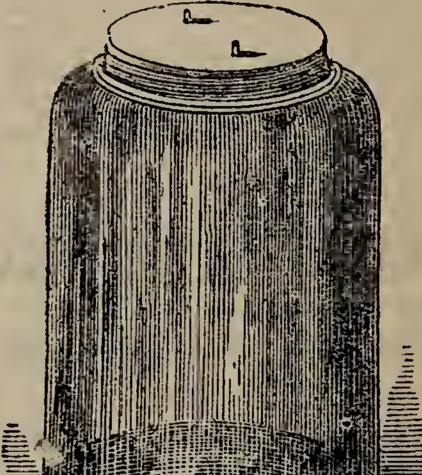
III. Of Fruit Growers—Name, P. O., County, State, Acres planted, Number of Trees. Vines and Bushes, of Apple, Pear, Peach, Cherry, Plum, Apricot. Nectarine, Quince, Grape, Currant. Gooseberry. Blackberry, Raspberry and Strawberry.

IV. Of Fruit Dealers—Name, P. O., County, State.

Persons sending the above information. (with a three cent stamp for return postage,) previous to August 15th, will receive a copy of the Register free of charge.

Early, prompt and correct information is urged, and will make this a valuable book of reference to buyer and seller.

W. C. FLAGG, Sec. Illinois State Hort. Society,
Alton, Illinois.
June 29—w6t.



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James W. Allen,
Real Estate Agent.
June 29—w26t.

THE CULTIVATOR.

THIRD] TO IMPROVE THE SOIL AND THE MIND. [SERIES.

VOL. XIII. ALBANY, N. Y., AUGUST, 1865. No. 8.

PUBLISHED BY LUTHER TUCKER & SON,
EDITORS AND PROPRIETORS, 395 BROADWAY, ALBANY, N.Y.

TERMS—EIGHTY CENTS PER YEAR—Ten copies of THE CULTIVATOR and Ten of the ANNUAL REGISTER OF RURAL AFFAIRS, with one of each free to the Agent, Eight Dollars.

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The Cultivator & Country Gentleman.

THICK vs. THIN SEEDING TO CLOVER.

MESSRS. EDITORS—In Co. GENT. No. 20, page 315, F. C. W., after referring to sowing a peck of clover seed to the acre, asks: "whether the seed produced by such thick seeding will be as large and plump as that from thinner?" And also remarks that "we can sow grain so thick that it will not yield a large plump seed." While I have no doubt that grain has been and can be sown too thick to yield a good plump seed, I have never seen clover so thick as to make any difference in the quality of the seed. I have raised clover seed where there was eight quarts of clover seed and four quarts of timothy sown to the acre, and had as handsome plump seed as I have ever seen anywhere.

The second crop or cutting of clover never makes so large branching growth as the first crop, but usually sends up a more moderate growth of short, stout stems, with fewer branches and larger heads, which, if the land is in good condition and season favorable, will be well filled with good plump seed.

This I believe is the case with both the large and small kinds of clover—the small kind cut, about the first of July, or when fairly in blossom for hay, and then saved for seed, and the large kind fed down pretty close by about the middle of June, and then saved for seed. I have never raised much of the large kind of clover, but have frequently observed that when first pastured and then saved for seed, that the growth was a great deal shorter, with straight stiff stems, than was the case when grown for hay in the usual manner—while my experience with the small kind shows that there is always a considerable difference between the growth of the first and second cuttings, so that where I have thought the first cutting might be too thick, there was no indication that this was the case with the second crop.

But I have never had any clear clover that was too thick. Several years ago I sowed a peck of clover and four quarts of timothy to the acre, on eight acres of winter grain, which, as there was a fine catch and it done well, appeared to be rather too thick. But as both kinds of seed was sown in the spring, the clover for the main crop, and the timothy only intended for a kind of filling up, so as to get the ground more completely covered and occupied, and a thicker and firmer sod, and at the same time a firmer and better quality of hay, I found that the first year the timothy made a comparatively small show the first cutting, while it did not appear to have much effect on the second crop of clover, which was saved for seed. Had the timothy been sown in the fall, there probably would have been a larger growth that would have had more effect on the clover. Hence, I conclude that when timothy is intended for the main crop it should be sown in the fall; but when the main object is to get a good crop of clover, and timothy is only sown to help fill up, and after clover begins to run out to take its place, then both should be sown together in the spring,—my usual practice being to sow both when seeding with wheat. But when seeding with spring crops, sow only clover, which is to be followed in a year or two with wheat; timothy not doing as well when sown with spring crops, nor being of so much advantage where the clover is plowed up so soon.

Having concluded that a peck of clover seed and four quarts of timothy was rather thick seeding, I have since sown six quarts of clover and four of timothy, which has given very satisfactory results on my land. When only clover is sown, I find it poor economy to sow less than a peck to the acre—while on good land, I find that a peck is enough or about the right quantity.

Profits of Thick Seeding.

As no doubt there are many farmers in other States besides Ohio, that, as F. C. W. says, "will require more than moral suasion to convince them that to double the dose will prove the most profitable," I have thought that a little calculation might be useful in demonstrating the poor economy of light seeding, and placing in a rather strong light some of the advantages of sowing at least a peck to the acre.

At the prices here the past winter, clover seed $15 a bushel and hay $20 a ton, 200 lbs. of hay will more than pay for four quarts of seed—while I am satisfied there can be little doubt that that amount of seed, when sown in addition to the—in many places—usual amount of four quarts, would make an addition of some 800 to 1,000 lbs. to the first crop of hay, and a bushel of clover seed to the second crop, and probably from 500 to 1,000 lbs. to the amount of hay the second year. So that, if the clover is then turned under for wheat, there will be at a moderate calculation 1,500 lbs. of hay worth $15, and a bushel of seed worth as much more, making $30 realized for an outlay of less than $2. Or, calculating the grain at only half, say 800 lbs. of hay and half a bushel of seed, there would then be over $15 realized for less than $2. At the same it should be kept in mind that where land lays longer the crops will continue to be better, as thick seeding lasts proportionally much longer and better than thin; so that where land lays three or four years, there is a much larger profit for the extra seed than there can be where it is plowed up sooner.

In calculating hay and clover seed at ordinary peace prices in this section—hay at from eight to ten dollars a ton, and seed from five to six dollars, the aggregate profit per acre will be much less though the per centage will be greater, as 150 lbs. of hay will pay for four quarts of seed. Perhaps this will be better understood by making a little calculation for a ten-acre field. To add four quarts to the acre on ten acres, will take 40 quarts, or one and a fourth bushels, at a cost of $6.25 to $7.50, for which, allowing a gain of 1,500 lbs. of hay and a bushel of seed to the acre, there will be realized on ten acres from $110 to $135—and this is only calculated for one whole season and half of the next. Where the land is mowed three years, and there is a gain of half a ton of hay each year, and one bushel of clover seed the first year, there would be a gain of over $200 on ten acres for the small additional outlay of a bushel and a peck of clover seed sown. At the same time, I have no doubt that the increase in the second cutting or after feed for the second and third years, will much more than pay for the difference in the cost of seed, to say nothing in regard to the additional improvement of the land by heavy seeding. It may be well to mention that as timothy seed is usually about half the price of clover, four quarts of timothy and six quarts of clover will cost about the same as a peck of clover, and in the foregoing calculations is considered the same.

But there is not only a gain in the amount of hay by thick seeding, but the quality is much better. For with thin seeding the grass or clover will be coarse, having a hard woody stem; while in thick seeding it will be fine and soft, being much better relished and more readily consumed by all kinds of stock—there frequently being so much difference between coarse and fine hay, that while all kinds of stock will eat up clean the latter without any difficulty, it is rarely the case that the former—unless very sparingly fed out—is all consumed.

Of course there will be a difference in opinion among farmers in regard to the difference in value between coarse and fine hay, but I believe it will generally be put at from one dollar to two dollars a ton. Then allowing the land to be mowed three years, yielding on an average only one and a half tons to the acre, making four and a half tons, there will be at one dollar a ton, four and a half dollars an acre, or $45 on ten acres; or allowing two dollars a ton, there will be nine dollars an acre or $90 on ten acres, gain in the quality of the hay by thick seeding—and making altogether a gain of from $150 to about $300 on ten acres in three years, for the small outlay of a bushel and a peck of clover seed or some six or seven dollars.

In view of these facts, is it not a wonder that so many farmers still follow the old practice of light seeding? Few farmers hesitate in buying any article that there is a reasonable certainty of selling again at a profit. They are generally ready to buy any animal or other property, where by paying from $20 to $50 they can make from five to ten dollars. But from some unaccountable reason, when they come to lay out a similar amount of money for seed to do their year's seeding, they seem to be governed by entirely different motives or calculations. For, while in the former case they are willing enough to invest from $30 to $50, if on every ten dollars they can make one dollar profit, they often refuse or neglect to lay out less than half this amount of money in heavy seeding, when by so doing they make from five to ten dollars for every dollar thus invested.

Now this is not the case because they do not want to make money, for it is from this class of farmers that we hear the most complaint about farming being unprofitable. But it seems to be owing to following old practices without much thought or consideration, looking on the money invested in seeding much as they would on money spent in traveling for pleasure or in any kind of amusement, instead of considering it one of the most profitable operations on the farm. Now the remedy for this must be found in observation, consideration and calculation. Few farmers will double the amount of seed sown because it is strongly recommended by the writer; but if anything can be said that will induce them to somewhat closely observe the difference in the amount and quality of the crops raised by both thick and thin seeding; to give the subject all needful consideration, figuring out the profits and advantages, so as to thoroughly understand it in all its bearings, I have not the least doubt that it will be much more sure to lead them to experiment on seeding, by sowing different amounts of seed, until they are able to determine very nearly the amount of seed that can be sown on their land to the best advantage. F. *Orleans Co., N. Y.*

CARE WITH STRAW AND FODDER.

A great deal of discussion has occurred of late years as to the comparative value of straw, cornstalks, hay, &c. The diversity of views, which is obvious, is no doubt owing largely to the imperfect manner in which these different substances are cured and preserved. One farmer, for example, finds the use of straw of great value, keeping his cattle and other domestic animals in excellent condition, with a very little grain or meal. Another denounces it as nearly worthless, as his bony cattle abundantly indicate. On further examination, we find that the first has taken much pains to secure his straw in the best order—the other has neglected it, allowed it to become wet, musty and unpalatable. The same result has taken place with clover hay—one man has it fresh, green and excellent; with another it is black, tasteless, or repulsive, having been washed by rains or become mouldy by partial drying. The same difference exists with corn-fodder —resulting in one instance from timely cutting, and securing in stiff, erect shocks—while in the other the stalks are cut out of season, badly put up, tipped over by winds or by their weight, and drenched, blackened and rotted by long rains. Who can expect his cattle to eat and thrive on this incipient manure?

The season is now approaching when farmers should give especial attention to this subject. Those who are about to cut their wheat, should remember that if harvested before the heads droop and become fully ripe, or while in the *dough* state, the tips of the chaff being yet green,) the grain is better and even heavier —the straw, if well dried, is brighter and more valuable for feeding. Therefore, cut early, secure in good, well protected shocks, until fully dry, and place the straw when thrashed, either under a roof, or else in as well built stacks as are deemed requisite for hay.

Hay should be well and evenly dried—not in lumps or bunches, or in badly dried cocks, where it becomes yellow and sour. A good hay tedder, run by two horses, however valuable it may prove in expediting work, and saving labor in dodging stones, will doubtless be found still more valuable in consequence of the perfection of the hay it will enable the farmer to manufacture.

ABOUT BUCKWHEAT.

The value of this crop annually produced would seem to demand a better culture than it usually receives; and might with propriety claim more than the passing notice it receives from our agricultural journals. While most other crops occupy considerable space in the best modes of culture, etc., this is in a measure passed by. We see much said or printed in regard to oats, and justly we think, but when we compare the value of the two crops, we find that buckwheat is of equal or greater value. In the crop report of 1864, we find the ratio in bushels to be as 9 of oats to 1 of buckwheat, while the acreage and value are equal; that is, an acre of buckwheat, whilst producing fewer bushels, will bring as many dollars as an acre of oats. If we compare the expense, etc., of production, we find that while oats require and receive good culture on rich soil and good land, buckwheat is often grown on poor land, or at least on land poorly prepared for growing any kind of crop; often it is put in with little care, the land being only partially plowed, full of sods, lumps, etc., etc., and not half harrowed at that; yet from such care we often get 25 bush. of seed per acre, and the land is left lighter and in better condition to work for the succeeding crop. Buckwheat being of a quick dense growth, it overshadows the weeds, keeping them under, and thus often subduing them. It requires cool nights to perfect its seed, and is not usually sown till July, that the hottest part of the weather may have passed before it comes into blossom; the sowing is delayed as long as possible and give sufficient time for it to ripen previous to early frosts. In different localities this occurs at different dates. The rule in Connecticut is to sow when chestnut trees are in bloom, and as a general thing this gives sufficient time for its maturity.

The soil should be pulverized and made sufficiently fine, that the germination may be immediate, and the growth rapid, when a good crop may be expected. Soils vary so much in different localities that no universal treatment can be adopted as a general rule, as applicable under all circumstances and in all localities. Heavy, hard soils require a different working from those of a lighter and more dry nature; the former, unless plowed in the spring, becomes at the proper time of sowing, hard and dry, breaking up in large lumps or clods, leaving the soil in a very unfit state for vegetating in. If plowed in the spring, the action of the rains and air render it easier of pulverizing, and it can be worked, even in a dry time, into a respectable condition. Lighter, drier soils can be worked at any time, and at once brought into condition. The quick, rampant growth of this plant makes it especially valuable for green manuring; it also forms good pasturage for bees, although the honey is unequal to clover, yet the quality is compensated by quantity. The straw, when properly cured and stored, forms a very good occasional feed for cattle, although many object to feeding it, yet I find that a small feed once or twice a week is readily eaten, and with good effects, especially by horned cattle and their young. The grain is valuable as feed for man or beast. Who among us does not relish and prize the nice soft cakes made from its fine meal? As feed to stock, mixed with other grain and ground, it forms a valuable addition; for poultry and sheep it gives variety, and thus serves a useful purpose.

South Windsor, Conn. W. H. White.

Profitable Culture of the Strawberry.

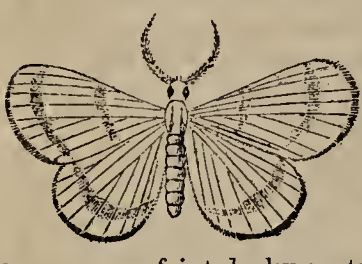
One of the finest plantations of the strawberry that we ever saw, was that of O. J. Tillson of New Paltz Landing, Ulster Co., N. Y., when visited towards the close of last summer. A short account of this plantation was given in the Country Gentleman at the time. The rows were about three feet apart, and the plants or "hills" fifteen inches in the row. The runners were cut off once a week with a pair of sheep-shears, and as a consequence, the growth of the plants far exceeded in size and vigor, the same under ordinary treatment. A letter just received from a gentleman at that place, informs us that this method has proved a "perfect success, and that he will clear $2,000 this season." The plantation, we understand, consists of about two acres.

RUSSELL'S STRAWBERRY.

At the late meeting of the Fruit-Grower's Society at Rochester, it was the general admission that this variety is too soft for market, and could not be carried more than a few miles at furthest. Probably the extreme wetness of the present season may have increased this difficulty. At any rate we are inclined to think it has been exaggerated, as we have seen specimens grown in dryer weather that had been carried safely 150 miles by railroad; and we have seen others conveyed uninjured for many miles by carriage. Some cultivators in Western New-York have told us that the Wilson sells for as high a price, although the Russell is regarded as better in flavor. The fact that the Russell requires impregnation by a staminate, in order to become fully developed, is a drawback on its value. Yet we must place it among a half a dozen of the best sorts, especially for home or family use.

THE CURRANT WORM.

During the discussions at the late meeting of the Fruit-Growers' Society at Rochester, we were surprised to hear three different members, men of great intelligence, state that the perfect insect of the currant worm is a small yellow or orange colored *fly*. As this opinion appears to be a common one. it may perhaps be regarded as a sufficient correction, to refer to Dr. Fitch's Third Report to the New-York State Agricultural Society, page 109, where the perfect insect is described as a moth [or "miller,"] "of a pale nankin yellow color, the wings with one or more faint dusky spots behind their middle in the male, and in the female with an irregular band crossing both pairs." The wings measure from tip to tip about an inch and a third. These insects have been repeatedly obtained from the worm, removing all doubt as to their appearance and character; and they may be seen in abundance hovering along currant rows in summer, where the larvæ have been permitted undisputed sway.



We have never known the sprinkling of white hellebore on the leaves to prove a failure. As a general rule, *repellants* of insects are of little or no value, but those remedies only are efficient which *kill*. The powdered white hellebore effects this result immediately, as soon as the worms take the first dose, no matter how thinly it has been sprinkled over the leaves from the finely perforated dredging-box. P. Barry stated at the Fruit-Growers' meeting above mentioned, that he found it better to make a solution of the hellebore in water, and throw it on the leaves with a syringe. There may be other poisons that will answer the same purpose, but none appear to have been tested—although we have heard that a solution of copperas, the water being 30 or 40 times in weight that of the copperas, had been found effectual, but farther trial is needed to prove it of value.

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ROTTING OF THE CHERRY.

In some districts of the country, the wet weather has nearly or entirely destroyed the cherry crop the present season, and earnest inquiries for a remedy are the consequence. The only remedies known, appear to be prevention. In order to get rid of the moisture as speedily as possible after rains, the trees should be planted where the air circulates freely, on hills or exposed places, and as much as possible away from other trees. Cherry orchards should therefore never be crowded. Besides these precautions, select those soils which rot the least, or make it a point to have enough of them to furnish a supply in very wet seasons, when others are destroyed. Probably no variety is less affected than the Early Richmond, (the genuine sort,) the rich acid flavor appearing to be proof against it. All high flavored acid varieties withstand rot better than the sweeter and more delicate sorts. The Morellos are valuable in this respect, and the Dukes are commonly less affected than the Hearts and Bigarreaus. Of the latter, the old Black Carone is one of the best, —a sort thrown out of most collections years ago, but worthy of a place on this account, and a good high flavored fruit when perfectly ripe. Some of Dr. Kirtland's new sorts have a rich acid flavor, (such as the Tecumseh and Red Jacket,) and we have found these to withstand rot better than the more esteemed and delicate varieties. The common Black Tartarian is a very delicate and nearly sweet fruit, and hence particularly liable to this disease.

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PIPES FOR WATER.

S. N. F. of Mossy Creek Farm, desires some information in relation to conveying the water of a spring three-fourths of a mile to his house. But as he has not stated the difference in level between the spring and the house, nor whether the water could be carried (circuitously or otherwise,) by a gradual descent the whole distance, we are unable to inform him as to the best way. Neither has he mentioned the size of the spring, and we cannot therefore say whether it would be sufficient to drive a water ram for elevating the water from the foot of the hill up to the house.

We may therefore state generally, that water may be conveyed by a continuous descent without any difficulty whatever, even if the descent is very moderate, say one foot in a hundred, or less. We have made water pipes for this purpose, extending a distance of three-fourths of a mile, by laying tubular drain tile in water lime cement, covering it with the same—the whole expense of which, including digging the ditch, cost of pipe and mortar, drawing and labor, is about sixty-five cents a rod. The last fifty rods being a steeper descent, was lead tube, the object being to obtain a head, and the tile not being strong enough for this purpose. The water from the tile emptied into a reservoir, from which the water was drawn into the lead tube on the opposite side. This reservoir retained all the sediment from above. The advantages of the pipe tile and cement are cheapness and capacity—the latter being desirable where the descent is moderate. It would also answer well for conveying a large stream to drive a ram. There is no difficulty in driving water 50 or 60 feet high, by means of a ram in a good lead lead pipe. For simply conveying water down a slope, pipe should never be less than three-fourths of an inch, interior bore—an inch is better. If less, the friction will prevent the water from running freely.

In this latitude we never place the pipe less than two feet under the surface, to escape freezing. This is quite insufficient to keep the water cool in hot weather, as the temperature of the earth by mid-summer becomes quite warm at this depth. For driving a ram, the spring should be at least large enough to fill an inch bore while running freely.

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Remedy for Birds Pulling Corn.—I have almost entirely prevented the birds from taking up corn this season, by sowing *soaked* corn liberally around the planted field, especially near grass fields where our red-winged black birds are most plenty. This season has been especially troublesome on account of the frequent showers keeping the ground soft, so that the birds could easily pull up the young corn. But although I planted my corn without any tar, and used no gun or poison, by liberal feeding, they did not make me one hour's work in re-planting 18 acres. J. G. Williams.

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* Even this has only been very recently accomplished, we believe, by a French chemist, Berthelot, and we do not know how perfectly.

"INTRODUCED GRASSES."

MESSRS. EDITORS—An erroneous opinion has long prevailed with American botanists and others, to the effect that it is impracticable to cultivate successfully European grasses south of 38° north latitude in the United States. Justice to our agricultural advantages, and the payment of our large national debt, alike demand the general correction of this climatic mistake.

In an extended essay, characterized by equal research and value, on "The Geography of Plants," published in the Report for 1863, by the United States Commissioner of Agriculture, Mr. Lippincott says:—'The grasses furnish evidence of aridity which cannot be readily overlooked, and fail to cover the earth with perennial verdure, as in the moister climate of England and Western Europe. South of the parallel of 38° north latitude, *the introduced grasses* cannot be cultivated."

What is said of the comparative aridity of the climate of the United States by Mr. L., Mr. Blodget in his Climatology, and others, is true; nevertheless, the Southern climate is not so dry as to prevent the cultivation of European grasses, although European grasses fail probably more from excess of moisture in the air than a deficiency. Where the climate of the South is damp enough for hanging moss to grow on forest trees, and Sea Island cotton on plantations, the atmosphere is too humid for even American grasses to be a safe crop, but not too moist for the "introduced grasses."

The Southern States contain over six hundred million acres of land; and few men will see clearer than Mr. Lippincott the importance of devoting a part of this vast area to grass-culture, and the raising of neat cattle, horses, mules, sheep and wool, if the business can be made profitable. Tennessee lies wholly south of 38° north latitude; yet, with a white population of 826,782, in 1860 it returned 41,532 bushels of grass seeds; while Ohio, with a population of 2,339,511, returned 53,475 bushels. The seeds grown are the same in both States, and the figures show more than two bushels to one in favor of Tennessee. A part of Virginia lies south of 38°, and its white population is about a third that of Pennsylvania. The last named State reports 57,204 bushels of grass seeds—the former 53,063 bushels. There are several species of European grasses cultivated in Virginia south of 38° which I have never seen in Ohio, Pennsylvania and New-York, although I have looked for them in those States during the past summer. Mr. Richard Peters of Georgia, has a farm of some 2,000 acres devoted to the raising of stock, and grasses from imported seed. Mr. C. W. Howard has some 1,200 acres used in the same way. The writer had, when the war drove him out of Georgia, some forty different species of European grasses under trial on a farm of 600 acres. About half were likely to prove exceedingly valuable to recuperate the fourteen million acres of old fields in that cotton State.

In fifteen years the United States will have a population of fifty millions, and many more will see the wisdom of cultivating perennial grasses, perennial fruits, perennial forest trees, perennial flocks and herds, south of 38° north latitude, by a perennial nation of farmers. D. LEE.

Blount Co., Tenn., June 17, 1865.

Letter from the Sandwich Islands.

The Sandwich Island "Forage Plant"—New Dictionary of the Language—Another Grazing Plant—The Past Winter.

HONOLULU, May 18, 1865.

EDITORS COUNTRY GENTLEMAN—In your paper of Feb. 23, you express the desire that some of your subscribers here would send you samples of the seed of the "*Oi Oer.*" Inclosed are some. As it is not in the season for seed they are very poor specimens—perhaps may grow, but if it fails you will not lose much. Upon examination you will class it, I think, with the Verbenacea, (probably, Officina,) and is a little too well known all over the United States. It has been here for fifteen or more years, and is considered a great nuisance. On the cool, moist, rich, elevated plains between *Mauna Kea* and the *Kohala* mountains of the Island of Hawaii, it has taken complete possession of the country. Its approach was looked upon, by the Rancheros, with more dread than a flow of lava; but after rooting out all other forage, it was Hobson's choice with stock, eat that or starve. They did take to it, and the result was some as fine beef and mutton as one would wish to eat. It gives to the tallow a strong yellowish tinge.

To the taste, the weed is about as pleasant as wormwood. The natives call it *Hauoi*, (give vowels continental sound,) not *oer;* such a word does not exist in the language, rich as it is.

By the way, a dictionary of the language, containing 15,000 words, by Rev. L. Andrews, has just been published here. This work is indispensable to ethnologists, and should be in the library of every scholar and college in the country. The Hawaiian is the richest of all the languages of the "Monads of the Sea"—would probably amount to thirty thousand words if all were defined.

With the *Hauoi*, you will find a few seeds of another weed which happened to be growing beside it. They are larger, and easily distinguished. It is deep rooted and grows in the poorest soils, if warm and it dry, and improves them. It does not, however, refuse to grow in rich soils. Neat cattle are fond of it, and it is very fattening. It is probably a *Sida*, and a variety of the same is cultivated here in gardens for its flowers, a pretty yellow, which the native bells weave into wreaths for their head-gear.

Your severe weather of last winter extended itself to these Islands, if that fact is interesting to climatologists. Of the twenty-three years that I have lived here, none have been so cold and stormy.

T. METCALF.

Salting Down Cucumbers for Pickles.

EDITORS CO. GENT.—In number one, present volume, Nelson Cox wishes the "best mode for making pickles for sale by the barrel." Here is my plan:

Leave half-inch of stem on cucumbers—wash them in cold water—immediately pack with salt in alternate layers, salt next to wood—one barrel salt to five of cucumbers. Fill barrel full, putting salt on top—cut a wide board so as to just fit *inside* of barrel—bore half a dozen half-inch holes through—place it on pickles with a stone on, which should weigh at least twenty-five pounds, so as to keep the pickles always in brine. Take off all scum which rises. Keep the barrels in the shade, and in four weeks take off stone and fill to top, as they will settle some. Put more salt on, then head up, and they are ready for market. It is it best to have two sizes of pickles. W. W. C. *Fairport, N. Y*

WATERING TREES IN HOT WEATHER.

There is no practice on which we have given repeated instruction, that is so little understood as that of watering newly set trees and shrubs during the hot and dry weather of summer. Many persons dash water on the surface and never examine whether it goes down half an inch or an inch, while the roots may be six inches or a foot below, and as little affected by it as a thirsty horse would be by pouring a pail of water on his tail. It would be well worthy of the experiment for any reader of these remarks to give the surface of a hard piece of dry soil a drenching with a watering-pot, and, then, a few hours afterwards, dig down and examine the depth to which the moisture had penetrated, and compare it with an adjoining spot that had not been watered. The result would be a valuable lesson. Let the experiment be extended. Allow one portion of ground to become hard and crusted, and keep another loose and mellow. Examine the moisture in the soil six inches down, during drouth—the crusted portion will be dry, the mellow part moist and favorable for the growth of plants. Again, examine a portion of the soil which has been allowed to grow with weeds and grass, as compared with the clear and mellow part, and the difference will be surprising to those who have not before witnessed anything of the kind. Grass and other plants pump water up from the soil and scatter it to the air in the form of insensible vapor through the leaves, many times faster than it can evaporate from bare soil; and beneath the grass the earth will sometimes appear as dry as ashes, while that which has been kept pulverized will be found as moist as a wet sponge. Actual observation of these differences, requiring a few minutes occasional examination, will be more convincing than any amount of reasoning. It will show in a most satisfactory manner the importance of keeping the soil clear and constantly pulverized, both for retaining moisture and for favoring the ready extension of roots.

Some years ago an acquaintance set out thirty young cherry trees. Fifteen of them were occasionally and moderately watered, and the remaining fifteen were left untouched. The owner was much surprised to find that seven out of the fifteen watered ones died by mid-summer, and only two out of the unwatered ones. The truth was, the water which had been applied never reached half-way down to the roots, while it hardened the surface into a stiff crust, which is especially unfavorable to young and newly set cherry trees. If he had kept the surface constantly mellowed by repeated stirring, and had mulched the ground with grass or old straw for a few weeks at the hottest time of summer, the whole thirty trees would probably have lived and grown well.

As a general rule, mulching with pulverized earth would be the most convenient and best way to perform this operation, if well performed. If the top soil is kept completely pulverized, it has about the same mechanical effect as saw-dust or chaff. But soil becomes more quickly packed solid again, than either saw-dust, chaff or short straw, and very few cultivators can be induced to break it up fine frequently enough. Hence, in ordinary practice, the common mode of mulching with hay, straw, &c., succeeds best. A neighbor once made a banter with his hired man as to which should raise the most corn from a quarter acre. The neighbor hoed his piece once a week all summer, yet in spite of this frequent hoeing, the hired man's corn was much the best. He was puzzled for a time to account for it, until early one morning he found him at work at it—and then found out that he had hoed it every morning before his employer had arisen. It has been common to ascribe the increased growth of constant stirring to the absorption of ammonia from the air, &c., but the true explanation is undoubtedly the preservation of the moisture of the soil by the more perfect mulching thus afforded.

Use of Mules---Points in Judging.

I see by an advertisement in our city papers, that there is a large number of mules to be sold by the Quartermaster's Department at Washington and Nashville. Gen. Meigs, in his advertisement, says: "These animals are to be sold at public auction; they will not bring anything like their true value, and such an opportunity for farmers to get working animals will never occur again."

The amount these animals have cost the government varies from one hundred and twenty-five to one hundred and eighty-seven dollars each. They were purchased in large numbers, and at much lower prices than a small number could have been bought by individuals for their own use. Those mules that have endured the hardships of from one to three years campaign, have proved themselves to be possessed of extraordinary constitutions.

The fact cannot be too deeply impressed on the minds of our Northern farmers, that there is nothing in the shape of working animals that can do the same amount of work in a generally variable climate, for as low a cost to the owner as the mule.

It would be worth the while of any person who has any doubts as to the docility, endurance or capacity for education of the mule, to inquire of a returned soldier, one who has been on the long and hard marches with either of our glorious armies, as to the use of which the patient mule has been, and the manner their part of the marches has been performed.

But one opinion can be given: they are the strongest animals for their size, will endure the most hard work, and get along with the least to eat or drink of any animal we use for work. Oh, you cannot kill a mule! I am sorry to say that this last is the idea of too many of the drivers the poor creatures have to control them. The impression that all mules are vicious has also happily exploded, as experience has taught us that among the tens of thousand mules in an army, it is but seldom one kicks or has any vice that has not been taught them. To teach a team of mules to guide perfectly with one line is but the work of a few days; a perfectly green team, one that has never been harnessed, is expected to take its place regularly in the train in less than one week after being first hitched up or harnessed. There are with mules, as with horses, all qualities, from bad to good: and in the purchase of an animal we should endeavor never to get one of an inferior quality; a good one at any ordinary price is cheap, and a poor one for nothing is dear.

Size is desirable, but by no means should great consideration be placed upon height; it does not constitute size proper, although the purchases for the army were based upon the height of the animal. Let your judgment for a mule be in size as for an ox, high from the ground to top of shoulder, but short legs. Beware of long-legged, slab-sided, small-bellied mules; they are not reliable. Look well to the size of the barrel or body of the mule; don't think you are choosing a running horse; a small body that becomes even smaller at the hind quarters, is not what you want, but rather look for a mule that resembles the best brood mares in shape of body or barrel; they have endurance, and are most easily kept. Being thin is no great objection; it rather assists in picking out the form of body to build upon.

Much information as to the character, disposition, &c., &c., of the mule, can be gained by noticing the way its head and ears are carried, both when in and out of motion. A fine mule will carry a high head with ears in motion—is very quick to see and hear all that is passing.

As in the horse, blood will tell; the imported or half-breed Black Spanish Jack will always leave his impress on his offspring, as will others of more humble origin. The mule from the imported jack can be discovered as quickly and with as much certainty, as a colt from a thorough-bred stallion.

The legs of the mule should be broad and thin; like a fine blood horse, the joints should be uncommonly large in proportion to the legs. The objection of the legs being too light, I have never known to hold good with mules if they were wide. The most durable colors are black, brown, grey, dun, spotted, including roans and sorrels. This is quite a question of fancy, as many persons prefer one above the other; for work there is about the same general difference as in the horse, except the black mule seems to have as good eyes as any other color. The hoofs of most army mules are suffering from a very common disease among horses in our best stables, contraction of the heels. It is as easy to cure this disease in the mule as in the horse, if you can make the blacksmith take sufficient interest in the animal, and not think because it will not show lameness, it therefore does not suffer.

Much good to both classes of animals, and a great saving to owners would occur if the use of the Goodenough horse shoe, or some other of equally good kind were more generally introduced. I have already given in a former article the relative value of the mule and horse for work for a term of years, and recommended to our northern farmers the use of the cheapest and best animal for farm work.

Further, it should be understood that mules are good animals to drive in carriages for pleasure as well as work. They are neither bad looking or bad drivers, and are used by many persons of wealth and taste in this city, because of their ability to endure hard driving on hard roads: 6 to 10 miles an hour is considered a good gait for a pair of driving mules. If good driving mules are wanted, don't use a whip about them; never let them become accustomed to a continual touching up.

Public opinion in the north is opposed to the use of mules. John Quincy Adams said, "Opinion is the queen of the world; it gives motion to the springs and direction to the wheels of power." Can we overcome that foolish opinion or prejudice, or must we bow to the power and give up the use of a valuable animal? This is a question that the farmer must answer for himself, and I feel assured we are not so far behind our southern brothers in even one thing that we cannot make good use of their most successful means of labor. R. S. I. *Nashville, Tenn., June* 10, 1865.

BUILDING CELLAR WALLS.

Is there any advantage in having a stone-wall against a bank, laid in mortar, or is it sufficient to have it pointed in front? Are tile under the wall better than small stones, and if so, how should they be laid so as to support the pressure of the wall? Should the wall be erected perpendicular or incline towards the bank, and why? Being about to build a wall some seventy feet long and seven feet high, against a bank of earth, I should like some information on the subject. R. G.

A sloping bank of earth will maintain its position or slope when it rises one foot to every foot and a half horizontally—that is, a bank seven feet high must extend ten and a half feet horizontally to keep from crumbling or falling. This rule varies somewhat with different soils, but not greatly. Every earth bank steeper than this, must be therefore protected by a wall, and the more vertical the wall the thicker it must be. Ordinarily about two feet in thickness of well built wall, is required to sustain a perpendicular bank of earth seven feet high. A solid wall laid in good mortar is of course much firmer than one laid dry and pointed.

All cellar walls should have a dry foundation. Ordinarily it will be sufficient to cut a trench as wide or wider than the thickness of the wall, fill it with small or broken stone, laid snugly and rammed down compactly, to build the wall upon. Good drainage is essential, and the addition of tile is only required when the flow of water is copious.

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"An Old Housekeeper" sends Messrs. Tucker a receipt for Tomato Soup. As it is so simple, it is within the reach of almost any one; and if the gentlemen will try it *first*, they will be satisfied of its goodness.

Will they obtain an answer to the following questions:

· The best receipt for what is called *milk rising* bread: What quantities of milk, water and flour to be used? Whether kept in *hot* water? *How long* and what temperature it should be to make the bread rise? What is the cause of its turning acid before rising? Any information through the valuable "Country Gentleman" will be thankfully received.

"An Old House-keeper" has receipts of her *own* for Green Corn Soup, Fritters and Puddings, if wanted.

[We shall be pleased to receive these receipes, and hope some of our House-keepers will furnish the information desired by our correspondent.]

Tomato Soup.

Wash clean 12 or 16 tomatoes, according to size; put them in a pot with two quarts water and two onions; let them boil tender; rub all through a hair sieve; wash out the pot, turn the liquor back. Wash two-thirds of a cup of small sago, add it to the soup; season with pepper and salt; boil 25 to 30 minutes. Toast a couple of slices of bread; cut them each in small pieces and put them in the tureen. Just before taking up the soup add a small pinch of Cayenne pepper. This will make two and a half quarts of soup.

Vermicelli is also very nice instead of sago. If a soup stock is on hand, it can be used and make a richer soup. It *should* be as thick as pea soup.

Boston. An Old House-keeper.

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Don't be too severe on yourself and your own feelings; keep on, don't faint, be energetic to the last.

GROWTH OF TREES.

It is often a matter of considerable interest to know the size that ornamental trees will attain in a given number of years. When in ground kept well cultivated, they generally grow at least twice as rapidly as in uncultivated ground, until they become quite large, when the difference is less. During a recent visit to the former residence of the late David Thomas, (which for the past fifteen years has been much neglected,) we made the following measurements—the trees mostly growing on heavy land, in some places wet, and standing where the ground had never been accessible to cultivation—and planted about thirty-five years ago. Under other circumstances, they would probably have attained a much larger size :—

Norway Spruce, 45 feet high, spread of branches 27 feet, diameter of trunk 16 inches.
Silver Fir, 35 feet high, spread 21 feet, diameter 15 inches.
Locust, 22 inches diameter.
Red Cedar, 10 inches diameter.
Horse Chestnut, 11 inches diameter.
Arbor Vitæ, 11 inches diameter.
Virgilia, 12 inches diameter, (ground cultivated some years.)
Catalpa, 13 inches diameter.
Kentucky Coffee, 14 inches diameter.
Honey Locust, 16 and 17 inches diameter.
Elm, 25 inches diameter.
Breda Apricot, 10 inches diameter—healthy.
Black Apricots, smaller, but sound and healthy.

FRUITS FOR SANDY SOIL.

Eds. Co. Gent.—There are many from more northern locations, constantly arriving and settling in this part of New-Jersey. The sandy soil is new to the most of these, and varieties of fruits which were healthy and profitable elsewhere, might not be so here. We (readers of the Co. Gent.) want a list of fruits, especially apples and pears, particularly adapted to our soil and climate. J. R. Rogers.

Vineland, N. J., July 2, 1855.

As a general rule, most varieties of fruit do well on such soils as will raise good corn and potatoes, while the kind of soil in other respects is a secondary consequence. There are, however, some sorts which are found to do well on light soils, when other sorts do not succeed quite so well. We cannot furnish a complete list of these, but among others, we have observed the following as succeeding well on sand or gravel, possessing sufficient fertility to produce good farm crops :—

Pears.—Beurre d'Amalis, Washington, Osband's Summer, Skinless, Bartlett, Onondaga, Buffum, Howell.

Plums.—Schenectady Catharine, Imperial Gage, German Prune, Monroe Gage, Lombard, Washington.

Nearly all the varieties of the apple, cherry and peach grow well on good light soils.

THINNING FRUIT.

Few owners of fruit trees will be apt to consider any advice under this head as applicable the present season, the crop being mostly a very light one. There are some trees, however, on which the fruit might be thinned to much advantage. Many trees are allowed to bear in ordinary seasons, from four to six times as many specimens as accords with their full and perfect development. The fruit is consequently small and deficient in flavor. This is the very year to learn a lesson on this subject. If the trees bear but few specimens comparatively, take off all the scabby, wormy and defective ones, which will be of no value in any event, and the crop which is left, having plenty of room, will show a size, beauty and perfection that cannot fail to convince cultivators of the advantage of thinning. We have heard a skilful orchardist assert that by taking off two-thirds of his peaches, the remainder increased so much in size as to give the same number of bushels as without thinning, while their improved appearance and quality enabled him to realize triple the price.

It is an easy task to thin out the fruit of an orchard, and is a positive saving of labor—inasmuch as it is easier to remove the fruit when it is small, and requires no care in picking and handling, than to do it when the specimens become full-sized at maturity. For example, if a tree bears at first three thousand specimens, it is easier to take off two thousand when they may all be thrown into a single basket, than to pick this same two thousand afterwards with all the care required in careful handling to prevent bruising. One great advantage in gathering large, fine specimens, over small and imperfect ones, is the greater rapidity with which they may be taken from the tree.

[For the Country Gentleman and Cultivator.]

A New Enemy of the Peach.

Messrs. Editors—The cause of the difficulty with Hale's Early peach, mentioned by your correspondent "Buckeye," (page 14,) is a worm about three-eights of an inch long, which bores in the growing shoot.

I first noticed its effects in 1863, but did not then know the cause. This year it has proved very destructive, and in searching for the cause I found in the tender point of the growing shoot, a worm which resembles the *leaf-roller*, but of a darker brown. Their season of depredation lasts about a month after the putting forth of the leaves. I have only two varieties affected seriously by it, the Hale's Early and a Yellow Rareripe, sent out from the Cleveland nurseries. They are decidedly the worst on the Hale's Early. In many instances the entire shoot of last years' growth was denuded, leaving nothing to sustain the fruit.

During their depredations the trees were infested with a slender black fly, nearly half an inch long I thought the worm might be the larva of this insect. Will some entomologist answer? In looking for the worm, find a shoot that is just wilted and cut crosswise. In dead shoots the worm is not found

St. Joseph's, Michigan, July 8. J. A. DONALDSON.

[For the Country Gentleman and Cultivator.]

THE AGRICULTURIST STRAWBERRY.

A correspondent inquires of your readers their experience with this berry. Last October I set an Agriculturist Strawberry in my garden, which soon commenced growing; covered it with sticks and hay in November, but found it dead in the spring. In April I set out two more apparently healthy plants; but the first new buds put forth were nipped by the frost—also the second. The plants then seemed to remain stationary for several weeks, having small leaves, less than an inch in breadth. They did not blossom or begin to send out runners till near the last of June, while a bed of Wilson's, set in April, in the same garden, blossomed and fruited abundantly. If my short experience with these two strawberries entitles me to express an opinion, I would say that the Wilson strawberry at 75 cents each, is cheaper than the Agriculturist at one cent each, especially for this latitude.

Delaware Co., N. Y. SUBSCRIBER.

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[For the Country Gentleman and Cultivator.]

Agricultural Forces of America and Europe.

MESSRS. EDITORS—By the study of the agricultural forces of America and Europe, their conservation and correlation, I find reason to believe that Providence saw from the beginning the time when steam would more than bridge the Atlantic, when hundreds of millions of the white race, the highest type of our species, should demand more soil and sunshine than Europe affords, and gave existence on this continent to agricultural resources equal to the wants of thousands of millions of mankind. The revolution of the earth from west to east serves to move tropical currents in the ocean and trade winds in an opposite direction, modified by solar heat developing the gulf stream, widely distributing rain and genial temperature, and laying the foundation broad and deep of man's last and greatest empire in the New World. Practically the sun is ever going from the east to the west with its light, its chemical and life sustaining rays, and the immeasurable force of its dynamical and agricultural power. Civilization has travelled in the same direction, not from choice, human wit or wisdom, but from natural laws above human control. Leaving out of view the resources of Mexico, Central and South America, and confining our attention to the physical forces applicable to agriculture in the United States and Europe, let us compare the advantages of the one with those of the other, and see which has the greater power to feed, clothe and elevate the human family.

The southern part of Florida is only 40 miles from the most westerly of the Bahama islands, and 70 miles from Cuba. It has so much warm water to the northwest of it, in the gulf, and such an exposure to currents of air and water from the equator, as to possess a climate equal to that of Central America and Brazil for the production of coffee. The seed of this useful plant may be cultivated as a staple crop on some five million acres. Europe has no climate that will ripen coffee or permit its cultivation.

Eight southern States returned cane sugar as one of their agricultural staples in the census of 1860; only three however need be named (Florida, Louisiana and Texas) to point to thirty million acres of sugar lands, capable of producing, with proper care and skill, as as many tons of sugar every year. But a hogshead to the acre will give more sugar than is now made and consumed, of all kinds, in the world. Had Europe the climatic force to ripen sugar cane, it would not grow the inferior sugar beet in large quantities for its saccharine juice.

Eight States are able to produce Sea-island cotton, and have at least twenty million acres adapted by climate and soil to the plant. At a half bale to the acre this land would yield more cotton than is known to the world's great commerce, at this time, of all sorts. North of the Sea-island cotton belt there is a much broader area adapted to upland cotton, of two hundred million acres, one half of which, planted in this crop, might easily be made to yield an average of a bale to the acre, or an aggregate of one hundred million bales. This is twenty times larger than the crop of 1859, as shown by the census of 1860. Had Europe an agricultural force of this power, cotton would not now be selling at forty cents a pound in gold in all of her markets.

I shall say nothing of tobacco and rice as compared with their cultivation in Europe, and pass to the notice of Indian corn, a cereal given to man by America. With about one-eighth of the population of Europe, the United States raise twice as much corn as is produced on that continent.

In the future, when population shall press on the full capacity of our climate and soils to support the human species, it is not too much to say that three hundred million acres will be yearly planted in corn, and give an average harvest of 60 bushels per acre. Such a harvest will supply eighteen thousand million bushels of this grain, and fodder enough to winter no small amount of farm stock. After devoting three hundred million acres to corn, and one hundred and fifty million acres to cotton and sugar cane, the United States will have five hundred and fifty million acres left for other purposes with a happy union of climatic force above and soil-force below, unequalled on the globe. In regard to this soil-force only a few hints can be given in this connection.

The Mississippi river drains about a million square miles of territory, whose watershed has generally a gentle descent toward the ocean. It receives in rain about 60 per cent. more water than falls on any equal area in Europe. A surface at once so broad, so level and abounding in water, is admirably adapted to the formation of large and long rivers, with bottoms of great width and depth of fertility. The same forces develop extensive intervals, rich and beautiful plains, like the prairies of Illinois and Iowa, Minnesota and Wisconsin. Tropical and semi-tropical heat and showers have developed not only plants and animals in great profusion, but that topographical condition of the continent best adapted to both natural and artificial irrigation and manuring. The Mississippi in high water, distributes the debris of plants, animals and minerals, the great conservators of agricultural force, over bottoms some 50 miles in width.

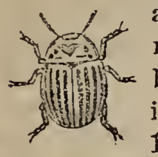
Has Europe any river that equals in volume and length, the number and extent of its affluents, and the breadth and richness of their bottom lands, "the father of waters?" Name the agricultural force in Europe equal to that which lifts water enough from the distant sea to fill the great Lakes of the northwest, and make the voice of Niagara proclaim forever the Divine power that presides over the fruitfulness of American soil?

America has agricultural advantages about which Europeans, and most Americans, know next to nothing. They are such as will soon draw a million immigrants to our shores from Europe every twelve months, possibly for centuries to come. Shall not these millions want food and raiment in all the future? Where are the best and most accessible farming lands to supply man's abiding wants? As yet land in America costs little more than air, water and sunshine, and now is probably the last good time to secure for a family a magnificent landed estate at a mere nominal price. D. LEE.

A NEW POTATO BUG.

Friend Tucker—I send you by to-day's mail, a beetle which is very destructive to our potatoes in this vicinity. I first noticed it two years ago. It has increased rapidly, and is now on more than half the patches of potatoes. Later in the season last year, where they were numerous they ate the leaves all off the potatoes, leaving only the stems and stalks, nearly ruining the crop. The *bug* is about three-eighths of an inch in length, very thick, and broad; the shell of its back is striped, dark and light drab. It lays yellow clusters of eggs upon the under side of the potato leaf, which hatch soon into small, dark brown, thick clumsy bugs, [grubs] which feed fast, and grow fast, and have no wings until full grown. What is its name? What its remedy? Suel Foster.

Muscatine, Iowa, June 17, 1865.



The pasteboard box containing these insects was crushed in the mail-bag, and all of them killed but one, who arrived in good order, alive and kicking, after a railroad ride of more than 1,000 miles, from Iowa to Albany, and 180 more back to Union Springs. This depredator is the Ten Lined Potato Beetle, *Doryphora 10-lineata*, of Say. It is a thick, oval beetle, half an inch long, pale yellow, with five black stripes on each wing cover. The larva is pale yellow, with rows of black dots, and six legs on its breast, and a pro-leg at the pointed end of its body. Dr. Fitch gives a very full account of this insect, with an accurate figure, in his 9th Report of the Insects of the State of New-York, from which we chiefly derive the following facts. In was first discovered by Say when he accompanied Long's expedition to the Rocky Mountains, and was described by him in the Journal of the Academy of Natural Sciences, at Philadelphia. It was first noticed as a destructive insect in the Prairie Farmer in 1861, and the next year a fuller account was published in the Valley Farmer, by Thos. Murphy of Kansas, who states that they were so numerous that in a short time he had gathered two bushels of them. They appear to be confined at present to the Northwestern States, where they appear in immense numbers throughout the season, eating the leaves of the potato, and injuring or destroying the crop. There appears to be as yet no satisfactory remedy for them. Dr. Fitch thinks perhaps they may be collected by holding pans with an inch of water under the potato plants, and then knocking them in—afterwards killing them in boiling water, and fed to swine.

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How to Make Poultry-keeping Profitable.

Messrs. Tucker & Son—I have many letters of inquiry as to the profitableness of raising poultry and eggs for market, and with your permission I will answer them through the Country Gentleman.

From my many experiments, I have always found that with a basis of eggs at 20 cents per dozen, and poultry from 12 to 14 cents per lb., and corn at from 80 cents to $1 per bushel, and small grain in that proportion, that hens will pay a profit—(above the food they consume, and 10 per cent. interest allowed on all buildings necessary for their use as rent,)—of $1.10 to $1.40 each, where a large flock is kept; and in small flocks of 10 to 12 hens, $2 each is not more than they will pay above their consumption of food.

A flock of 100 hens, given a third of an acre of well-grassed land, with a building 40 by 15, 12 feet posts, making two stories—the floor of each covered four inches deep with a coarse gravel sand—with platforms under the roost to catch the droppings, and those droppings removed twice each week—with care that they have a good supply of vegetable, animal, and grain food—whitewashing the house twice each year, and renewing the sand twice—under such treatment they will pay a profit of $1.25 each above the food and rent.

As to larger flocks, they will pay as well in proportion, if cared for as well, keeping 100 hens in each house as described above.

I have no hesitation in saying, that with 10 acres of dry land, with twenty such houses as I have described, with two thousand hens one could realize a profit of $1,700 to $2,000 a year above the expense of food consumed, and the wages of one man and rent of the building.

Beside the above, if the land was set out with apple trees 33 feet apart, trees to be three years old when set, that at the end of five years one would have a nice young thrifty orchard, which would bear at least from one and a half bushels to one barrel of apples to each tree, and from that time continue to increase. There is nothing like the running of fowls among trees, which will so cause them to grow and do well, for I have tried it and know. In a previous article in your paper, I gave my experiment as to the effect of hens in orchards.

As to the selection of stock, one must be governed by the market he is to supply. In some localities, where eggs command a ready sale and at good prices, one would wish to keep the kind of fowls which would produce the most eggs in a year—or I perhaps should say, he should so arrange his stock that he would have a supply of eggs all the year round. A Hamburg and Leghorn will probably produce more eggs in a year than any other two breeds yet brought to notice; but the Brahma fowls will produce more eggs in the winter months than any other breed; therefore, to produce eggs throughout the year, one would do well to breed the three kinds if he was going to confine himself to thorough-bred fowls; but if eggs for the market is the object sought, I should advise the Brahma hens crossed with White Leghorn cock, for then you have good poultry and fine appearing fowls, besides hens hard to beat for laying eggs. Always, in getting the stock, breed Brahma hens with Leghorn cock, and not use eggs from the half-bred fowl for setting.

A cross of Hamburg hens with Black Spanish cock, will, as egg-producers, I think surpass any other breed or cross, but the poultry is inferior.

For thorough-bred fowls, I class them thus: Brahma, Golden-Penciled Hamburgh, Leghorn, Grey Dorking, Black Spanish, Chittagong.

For poultry, Chittagông, Brahma, Grey Dorking.

For eggs, Golden-Penciled Hamburg, Leghorn.

For poultry and eggs combined, Brahma, Leghorn, Grey Dorking.

Black Spanish for crossing purposes and for beauty.

Aside from the above fowl, I do not think any one will better him or herself to depart. In my experience they will pay a better profit than any I have yet bred, and I have tried them all as they have come on the stage.

As to the question in regard to rearing of chickens, I do not see as I can answer any better than to refer to my previous articles in your Country Gentleman.

People are, it seems to me, taking more than an ordinary interest in the rearing of poultry. Whether they have been all this time finding out that if taken the same care of as other farm stock, they will pay a better profit, or whatever the cause, all I have to say is that God made nothing in vain, and that if parties in rearing poultry find an exception to the above, they will do more than your humble servant has yet done.

Natick, Mass. I. K. F.

ROADS SPOILED BY "MENDING."

During several recent rides, we have had occasion to observe the effects of "mending" on roads—the principal object being apparently to consume the labor which the law requires, in the easiest and most careless manner possible. In one place where the track had formerly been comparatively smooth and hard, a quantity of turf and muck had been unevenly spread upon it, and the subsequent rains had worked it into a stiff mass, intermingled with water puddles. The road had been "mended."

In another place, the horse scraper had been used in carrying good, hard earth on the rounded portion of the highway, but these heaps or scraper loads had been left unleveled, and the passing wagons were compelled to pitch and plunge over them, by placing numerous rails and fence posts on the smooth beaten track at the side—the object being to use the passing wheels of wagons and carriages to level the heaps. This road had also been "mended."

In another place, the highway had been made to cross a piece of low land, where from six to ten inches of the surface was black muck. To make a dry road, this muck had been scraped up into a turnpike, increasing its depth from half a foot or more to about two feet. The spring rains had worked this deep mass of muck into a beautiful bed of black mortar. Being hard for wagons to work through it, they had sought the ditch at the side where the muck had been scraped away, and left the hard subsoil. The ditch was thus make into a tolerably good road—the turnpike into an intolerably bad one—however it had been *mended.*

In another place, a similar turnpike had been made, but had been rendered harder on the top by successive additions of subsoil from the ditches. When dry, or during the first summer, this continued to be a pretty good road; but the following spring when the earth was soft, heavy teams cut through the surface or crust, and went down into the unknown depths of the black mud below.

Another road, made on a soil somewhat similar, was first constructed by placing a bed of large and irregular stones on the intended track, and then covering these with soil. This was a tolerably good road while the soil remained dry; but long rains working it soft, the wheels pass through to the rough stones below, and cause the rattling, jolting and pitching about, very satisfactory to those whose chief business was to break wagons and harness, and wear out horses. Yet this road, like the others, had been *mended.*

It would seem that intelligent men who make large sums of money every year by farming, and pay large revenue taxes, expend all their thoughts from morning till night in managing their own private business. At any rate, a few minutes thought bestowed on this subject would be sufficient to evolve the following truths:

1. The best material to make roads is that which is hard and free from large obstructions—such, for instance, as clear hardpan, fine gravel, or finely broken stone, with no large stone in them.

2. The worst material is soft muck and large stones mixed together—next, soft muck alone—next to this, sods, turf, ditch scrapings, &c.

3. The best surface is one that is perfectly smooth and sloping moderately to each side—having been so carefully leveled as to *invite* travel, and never requiring the compulsion of rails and timbers thrown in the parallel track to *force* teams upon it.

4. The worst surface is one which is made of unleveled heaps of earth intermixed with large stones—or one which is cut into ruts a foot or more in depth, into which the passing wheels must plunge and grind in their onward progress.

If the surface of the soil is mucky or tending to form mud easily, the best thing to do is to cart or scrape it entirely away from the highway, and spread it over the adjacent land. This is much easier than to draw a bed of gravel or other material a long distance to cover the muck. The first is accomplished by removing a surface of say six inches to a distance of three or four rods; the latter requires at least as great a depth drawn a long distance. The first leaves a solid bed with a soft stratum below; the latter gives a hard surface only or crust through which the wheels are liable at any time to cut into a mortar bed beneath. Some of the hardest and best portions of road we have ever met with, were where the top soil had been removed for other purposes; for this mode of obtaining a solid road-bed has been but very little practiced.

In all cases in the construction of good roads, we must adapt practice to circumstances. In some places the soil itself is just right, and needs only proper leveling. In others, it contains large scattered stone, every one of which should be carefully removed, as a single obstruction of the kind, thumped and battered by passing wagons for fifty times a day, the whole year, may do hundreds of dollars damage in the way of breaking, battering or weakening wheels. Other soils require the removal of the mucky surface as already explained. In other instances, neither the top or subsoil is good for roads, and gravel or broken stone must be drawn from a distance. We may continue these remarks in a future numbers.

BEE ITEMS.

From the Rev. L. L. Lanstroth's son I learn that owing to ill health, the new edition of his book, the "*Hive and Honey Bee*," will not be published until some time next winter. I understand that much of it is to be re-written, and a large amount of new matter added.

If we judge from the demand for Italian queens last season, the apiaries of the country are becoming rapidly changed to the ligurian species. In the working season if an Italian queen is introduced into the hive of native bees scarcely a black bee can be found at the end of three months. The writer had one in which very few black bees could be found at the expiration of two months. If the queen is introduced at a season of the year when the bees perform but little labor, the process of change is much slower.

Bee Forage.—Last season the writer seeded one-half acre to Alsike or Swedish clover. The season was dry, and it blossomed but little. The seed caught good, and the plants endured our cold Wisconsin winter finely—though we had more snow to protect them than we usually have. It is prolific of blossoms and the bees have been laboring on it for two weeks, and it bids fair to continue in bloom two weeks longer. Very few bees can be seen on the white clover in the vicinity, but the hum of the busy worker is constantly heard during the day upon the Alsike. The native and Italian species resort to it alike. Its pleasant perfume can be discerned some rods away. L. L. Fairchild.

Rolling Prairie, Wis., June 19.

Care of Fruit and Fruit Trees.

Messrs. Editors—Having been a constant reader of your valuable paper several years, I feel bound to communicate some of the knowledge I have obtained by experiments and practical tests for several years, in regard to the care of forest and fruit trees. At the present time, when in almost every section you may travel, the sad spectacle of trees stripped of their foliage, and the appearance of a fire having scorched their limbs, it becomes all to do something to check if not to entirely remove the cause of this calamity. If all can be induced to make the effort, our success is sure; otherwise it can be only partially so.

The first thing, we must see that the insects are not actually harbored and fed by neglecting to remove all dead and superfluous bark. To accomplish this result, resort must be had to proper instruments. The common method of scraping the trees is attended with as much evil as good; the instrument used is suitable for the butcher's block, not for trees. The scraper I would recommend for trees, can be constructed from a cast-steel plate of the thickness of that used for garden spades. The form, instead of being triangular, should be a straight line on one side only; the second should be a convex line, and the third a concave line. The edges should be beveled something like a plain iron, but not to a sharp edge. With this instrument having removed all the dead bark, it will expose, if any there be, unsound places. In this case proceed to cut out all the rotten and decayed matter to the live wood; then apply a compost as hot as can be applied to the wounds: To four pounds of rosin, one pint of lard-oil, or a pound of tallow, sufficient to dissolve the rosin over a slow fire; then add five pounds of whiting, to neutralize the oil and make a durable substance; cook these ingredients until the whiting and rosin are thoroughly incorporated—leaving no sediment of whiting at the bottom of the kettle; then add lampblack to fix any color you choose, in colder climates more than in milder ones. This composition I have used for sixteen years, pruning my trees at any time; but in all cases applied this composition—also for grafting wax—has no equal. My trees are then ready for their dressing.

Take one bushel green cow manure, one peck of wood ashes, half a peck of lime, half a peck of flour of sulphur, one peck of hen manure, one peck of soft-soap for a barrel, with soft water; mix the ingredients well, and apply with a flat soft brush used in painting walls.

I have found the foregoing to be not only a good fertilizer, but also a preventive from attacks of insects, having none on my own trees.

Weston, Mass. GEO. SPARHAWK.

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Do Strawberries "Poison" the Land.

I have read something to that effect, but cannot recollect where. Last fall I sowed a piece in my garden where strawberries had been, to turnips, which never advanced beyond their small leaves, nor had any sizeable roots, and I ascribed the difficulty to the chickens eating the tops. But this spring I dug that piece and the adjoining plot, in which there had been strawberries for two years, manured it heavily with barn-yard material, planted spinach, beets and onion sets. The spinach came up well, then stood still, though watered and again enriched, and after a long time went to seed without growing any higher. The beets were treated in the same manner, and now after six weeks apparent inactivity, are beginning to grow again. The onions did better, but are small and poor compared to what they usually are in the same soil. I can account for these vegetables not growing on good soil, well manured, only on the hypothesis of the strawberries affecting the soil deleteriously. R. G.

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FEEDING RYE TO BROOD MARES.

Messrs. Tucker & Son—*Respected Friends:* Mr. Killgore of Missouri, in criticising my article in the Co. Gentleman of May 25, would lead your readers to believe that I wrote ignorantly on the subject of feeding rye to brood mares. Perhaps I should have given them a word of caution as to its use; but if they had followed my directions, and gone no farther, they would have met with nothing but good results.

Mr. K. says if I should continue the use of boiled rye as I recommended it to get mares in season, they would always be in season, and never get with foal; that is very likely, but I did not recommend any such course. I only recommended it in that condition to get them in season, and as soon as they are served by the horse it should be stopped of course, but it may be used, as I recommended before, (mixed with other grain,) without damage. Grind two bushels of oats with one of rye, or mix it in the same proportion with shorts, or bran as millers call it, and it will do no damage to brood mares. I have taken nothing for granted in this matter. I have given my actual experience, and a course that has always worked well with me, and one from which I have never sustained a single bad result, I will unhesitatingly recommend to my friends. I have never owned but one mare that I did not succeed in getting a colt from, and have never had a mare miscarry. Last fall I wished to put a mare to a horse kept twenty miles distant from my place, and did not want to drive so far on a fool's errand, so I fed the mare boiled rye for five days, drove her to the horse and back the same day, making a drive of forty miles; she had but one leap, and is heavy with foal at this time. I could give many instances of this kind if required. H. C. W.

Glen Cove, June 27, 1865.

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CURE FOR WITCH GRASS.

In a late Farmer you say that there are only three things that trouble you very much, viz., "sin, musquitoes, and witch grass." I will give you my experience in regard to witch grass. I first prepare a piece of land for sowing ruta bagas, cultivate between the rows as soon as I can distinguish the line to plant. I am dilligent and do not allow a blade of grass to rise more than 2 inches. When they are harvested I plow deep, and in three years there will not be a root of witch grass on the field, if the land is cultivated for that time in this manner.—W. G. *in Maine Farmer.*

◆

Catching Sheep.—Never seize a sheep by the wool on the back; it is very hurtful to the animal, particularly in warm weather, when he is large and fat. The best way to catch a sheep is by the hind leg or by the neck. The animal is easiest held by placing one hand under the lower jaw and the other back of ts ears, and slightly raising its head.

HOW TO GROW ONION SETS.

Eds. Co. Gent.—Yours of the 17th inst. is received. In my article entitled "How to Grow Onion Sets," published in Co. Gent. of May 11, I have given briefly my own practice in raising that crop. To the questions of your correspondent J. A. D., to which you refer, I can say:

1st. As to time of gathering or pulling the sets, my practice has been to let them stand in the bed where grown until the tops die down to the bulbs, or when the bulbs appear to be ripe and stop growing. Then in dry, sunny weather they are pulled and spread out in the sun to get thoroughly hardened and dry. I experimented one season in pulling the sets when the tops were green. and lost nearly the entire stock. The experiment was made from what I had heard or seen somewhere, that they could be saved in this way, and would do well when planted.

2d. These sets are planted early in the spring, in rows from 12 to 14 inches apart, and from four to six inches from each other in the row. What we want is to get large, handsome onions that will mature early, so they can be put in market and command a good price. The sets are therefore raised one season and planted the next.

When *sets* are planted, nearly all the work of cultivation can be done with the hoe; but when the black seed is used, weeding by hand must be resorted to. Many persons who have gardens are not over-fond of weeding, and hence sets are always in demand. Top onion sets are extensively used for planting, but the onions raised from them are tough, thick-skinned and inferior. The kind I usually sow for sets is the Silver skinned. This variety of onions has a more delicate flavor than some other sorts, and is generally preferred for the table.

Mr. Bachellor, of Bachellor Bros., importers and dealers in seeds, at Utica, tells me there are some varieties of onions, the seed of which will not grow good sets, the onions grown from them running to stalk, and producing nothing but "skullions."

3d. I can see no advantage in planting sets in hills, as suggested by J. A. D.

A few days ago I was at Mr. Hayward's seed farm at Rochester, a brief account of which I give in the Morning Herald of to-day. Mr. H. grows onions and onion seed extensively. On one part of his farm he had a large patch of potato-onions. They were ripe and just ready to pull, and the yield appeared to be immense. He says they are an excellent variety for table use, good keepers, and what is still better, a very profitable crop to grow. One set or onion produces several; some large, and others smaller. The smaller ones are sold for seed at $5 per bushel. As they are very early, and have so many good qualities, it seemed to me they ought to be more generally cultivated. He had a large field of onions growing from the black seed. The seed is sowed by hand in drills twenty inches apart, and thickly in the rows at the rate of three pounds per acre. The plants are not thinned out. Those on the outer edge grow large, and the smaller ones command a ready sale at a large price. He says they are very profitably grown in this way.

Mr. H. had been making an experiment with gas lime, a note of which may perhaps interest some of your readers. An application to meadows at the rate of 30 bushels per acre doubled the crop of grass. He has been applying it to some extent on cultivated grounds, and for vegetables, and thinks its use will prove a great success. When applied in considerable quantities it kills quack or couch grass, and gets rid of it "root and branch," and the land next year, he says, is in good condition for a crop. Gas lime, we suppose, may be had in many places for the mere hauling away, and it may be worth while perhaps for farmers to experiment with it. In doing so however, one should "feel his way" at first, applying it in small quantities, and watch its effect.

The Country Gentleman is among the most valued of our exchanges. Its nice white paper, large clean type, and varied contents, make it a model of beauty and intelligence—a perfect cyclopedia of agriculture for the farmer, and none should be without it.

Always wishing you success, I am respectfully, yours, &c. X. A. Willard.

Little Falls, July 18, 1865.

BAKED PUDDINGS.

Messrs. Editors—Seeing a call in Co. Gentleman for Baked Puddings, I send some we call good.

Baked Indian Pudding.

Seven tablespoonfuls of corn-meal, with molasses enough to wet it; pour on to it three pints of scalding milk; add butter size of an egg; when cool, add three eggs, teaspoonful ginger, little salt. Bake two hours; stir from the bottom twice while baking.

Nice Bread Pudding.

One pint grated bread crumbs, one quart sweet milk, yolks of four eggs, one cup sugar, the grated rind of one lemon, butter size of an egg. Bake nearly an hour. Beat the whites of four eggs to a stiff froth, stir in nearly a cup of white sugar, and the juice of the lemon. After the pudding is baked, spread jelly over the top, then the frosting, and bake until it is brown. It is very nice without the jelly, but better with it.

Steamed Rice Pudding.

Three pints milk, one small cup rice, one teaspoon salt. Steam three hours. Add while hot the yolks of two eggs, with half-cup white sugar; beat the whites with sugar, and pour over the top. Bake five minutes.

Lockport, N. Y. Mrs. S. B. F.

ANSWER TO INQUIRY ABOUT BEES.

In reply to J. Lake's inquiries, Co. Gentleman for July 6: There may be two queens or one. There are cases where bees remain in two colonies in the same hive, but they are rare. Their swarming again depends very much on the honey season—the more honey the more bees.

I would suggest putting under their hive a hive of 2,000 cubic inches, adapted for honey receptacles, to be put on after the top hive is removed; 50 to 75 lbs. of honey have been obtained in this manner from black bees. When the queen is lost or destroyed, the swarm leaves unless there are eggs and brood for one. Queens can be secured by spreading the bees on a sheet, taking her up with a few bees when found, in a small box, cage or tumbler, covered on gently poking them in.

Bees may be swarmed at any time with safety, when their conditions are right. The writer has practiced artificial swarming for several years, not allowing his own bees to swarm out at all. There are different ways to do it, depending somewhat on the style of hive used.

JOEL CURTIS.

FERMENTED FOOD FOR PIGS.

Does swill or other feed for hogs lose or add to its fattening qualities by letting it sour? F. O. W.

We have no recorded experiments of a definite and accurate character, to show the precise effect of fermentation on the food of swine. It is a common opinion of good managers that a moderate or slight fermentation does not injure it, and others believe it is positively inproved. There is no doubt that the process may be carried to an injurious extreme, inasmuch as vinegar contains little nutrition. The fermentation at any rate should be recent, as experience with nearly all animals shows that food in a good sound, fresh condition is better than than that which is old and injured. Farmers have adopted different mode of mixing grain with water for feed, but all agree that a great loss is sustained by feeding grain unground. Some have asserted that feeding meal dry has an excellent effect, and prevents the undue distention of a large dilution with water. A very successful manager, with whose treatment we are well acquainted, pours six parts of hot water on one part of ground Indian meal, and then allowing it to stand 12 to 18 hours, until the whole has swollen to a thick mass, when it is given to the animals. He finds boiling water better than cold for this purpose, but the mixture undergoes little or no fermentation. So successful is his management, that in connection with the selection of good breeds, and regular feeding and cleanliness, he usually obtains one pound of pork from feeding three pounds of good dry corn. He has not tried dry meal.

Another mode which has been much recommended by some English writers, is to mix the meal with water, and allow it to ferment a week or two, and mixing with sour milk or whey is esteemed as still better.

It would be worthy a series of experiments to determine which of these different modes is best. They would need to be carefully conducted, under circumstances in every respect alike, so as to avoid partial or one-sided results, and weighing or measuring would be indispensable.

BARREN STRAWBERRIES.

Last August I set out a large strawberry bed, and, thinking to have a prolific plat, I made the ground very rich by the use of compost manure. I kept the bed free from weeds, and the result was a crop of vines such as I never saw before, being nearly eighteen inches in height. Last spring they were covered with blossoms, and I congratulated myself on having enough, not only for my family use, but thought to supply some of my less fortunate neighbors. False, delusive hope! Not a berry is to be seen.

You made your ground too rich, says Mr. A. You worked in your vines too much, says B. Mow off your vines close to the ground, and you will have a greater yield next year, says C., &c. Now can you or any of your correspondents who are posted on strawberries, suggest the cause of and the remedy for my failure? In a small bed I made a year ago last spring, the result has been the same. AN OLD SUBSCRIBER.

Our correspondent has omitted to inform us what variety he planted, and whether it was not some worthless sort. It is barely possible that he has some pistillate, without a fertilizer. The Scarlet and its varieties and the Wilson are scarcely ever made barren by too fertile a soil, nor other sorts, if the plants are kept in hills and the runners constantly cut off. If our correspondent would plant the best sorts on poorer soil, and give proper cultivation, he would learn more in a single season by experience than by merely asking the advice of all the cultivators in the country.

The Growth of Young Timber.

I want to tell my story, which I know to be true and perfectly correct, as all the parties are to me well-known and of unimpeachable veracity. The scene is in Berkshire Co., Mass. A boy reaped wheat in a field—that boy grew to be a man, and lived to the ripe old age of 82 years. Before he died, he sat in his chair and saw a neighbor of his from day to day drawing saw logs to the mill. This man drew, had sawed, and sold 152,000 feet of lumber, and all from 3½ acres of the ground upon which the old man when a boy had reaped wheat. The timber was mostly pine, some oak. I believe pine will grow as fast here as that. HAWK-EYE. *Keokuk, June,* 1865.

Management of Cows' Tails in Milking.

EDS. CO. GENT.—Some inquiries and observations have been made in back numbers about cutting off the tails of cows. I have heard but two reasons given for doing it. One is, that cows are not as liable to the disease sometimes called soaked tail, and its accompaniment *horn ail.* The other is, the annoyance of being switched and thumped while milking, especially when the flies are troublesome.

A year or more ago, I noticed in the Co. GENT. an article on governing cows by *moral suasion.* The writer claimed that he had influenced his cows by this system, so that they would not hook each other, and by the same system had learned them to hold their tails still while being milked. I have been looking for the article, but not finding it, I am obliged to write from memory. I tried moral suasion as well as I knew how, but have to acknowledge I did not succeed. So I tried another system, that succeeded so well that I gave up moral suasion, and have substituted compulsion; but my plan only works well where cows are milked while being in stanchions.

But to my plan: First, fasten a small ring permanently in the brush of the tail of each cow, tying it near the roots of the hair. Stretch a wire of suitable size the length of the stable, high enough to be out of the way, and about three feet back of the platform on which the cows stand. Then take a piece of stiff wire, form a long hook at each end, hook one hook in the ring, the other on the wire overhead, and the compulsion is complete. Of course the length of wire will be according to each one's taste—the shorter the wire the higher the cow's tail will be raised. When one cow is milked, the hook can be easily removed and applied to the next one, and when all are milked it can be hung on a nail against the wall out of the way.

I have been obliged to go somewhat into detail, but my subject is an *extreme* one, therefore requires an *extreme* remedy.

The first reason may be obviated as well by cutting off one or two inches from the end of the tail, saving the brush, as to cut off two-thirds of it, and spoil the looks of the cow, and deprive her of a protection that nature gave her. S. S. W. *Little Falls.*

A Beautiful Evergreen Screen.

We have heretofore noticed the fine evergreen screens growing on the grounds of Ellwanger & Barry of Rochester. On a recent visit to their place, one of these screens presented so fine an appearance as to deserve special notice. It has now been planted about eight years, is eleven feet high, four feet thick at the bottom, and running up in the form of a wedge, and is as straight and even as a solid wall of masonry. Such a screen, extending around a garden, would protect it from cold blasts, and probably be equal to two or three degrees of latitude in softening the severity of the climate. The Norway Spruce like the Hemlock, grows well in the shade, and this screen seemed nearly a solid mass of verdure throughout its interior. The Hemlock screens presented the same appearance when examined inside. But the Arbor Vitæ, Buckthorn, &c., which do not grow well in the shade, always exhibit nothing but bare stems and branches inside, however dense the foliage may be without.

Sending Insects and Plants by Mail.

We often receive specimens of plants and of insects that are broken or destroyed by a want of protection in the mail. Insects especially, unless in a stiff case, are almost sure to be reduced to fragments. Small insects may be inclosed in the barrel of a quill well stopped at both ends. Larger ones may be placed in small tin boxes, or paste-board will do, provided they are protected by a strip of tin passing around them horizontally, the breadth of which should be just equal to the height of the box. This stiffens the sides and prevents the top and bottom from being crushed together. Small tin boxes of any desired size, may be quickly made by any ingenious person as follows: Take a small piece of the thinnest tin plate an inch or two in breadth, about twice or three times as long as broad, and cut as shown by the dotted lines in the next figure, (fig. 1;) then bend up the sides as in fig. 2, double over the last half, and the box is made with the lid attached, al lof one piece.

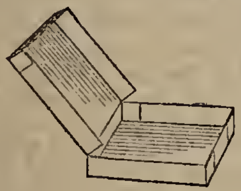


Fig. 2.

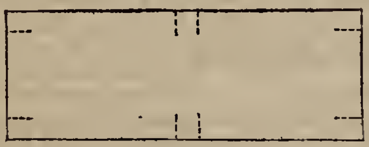


Fig. 1.

Specimens of plants, if quite dry when sent, are almost sure to crumble to fragments. The grasses are more tenacious than other plants. When any sort is put up too green or fresh, it becomes twisted and wrinkled. As a general rule, the grasses should be well pressed for at least three or four days before forwarding, and then will often come in tolerably good order, if merely inclosed in a sheet of stiff paper, with a long envelope, (the size used for legal documents.) It is better, however, to place them within folded paste-board. Other plants, after being sufficiently dried, should be invariably protected by pieces of paste-board on each side, or if sent by express, wooden boards or tin answer an excellent purpose.

Common instructions for drying plants, direct that the paper in which they are placed be changed every day or two, to fresh dry paper—each successive transfer causing the absorption of moisture from the plants. We have found a much better, easier, and expeditious mode in first placing the fresh plants within folded news-papers, and then giving them a moderate pressure for a day. The papers are then taken from under pressure, and spread on a floor or table for a few hours, with the plants within them, until the paper becomes dry. They are then returned to the press, and the same process repeated until completed. One great advantage of this mode is that the plants are not doubled or disturbed in removing from one paper to another.

TO PRESERVE FRUITS FRESH.

To begin properly, have a supply of cans or bottles, capable of being made air-tight. We prefer glass or common queensware, with openings large enough to admit of perfect cleansing. Tin rusts so easily that they in the end, prove least valuable. Have a large boiler in which the cans are to be set, in cold water, (if of glass or china,) and brought to a brisk boil before the fruit is put into them. A preserving kettle, in which to scald the fruit, and another to keep syrup hot in are necessary. For bottles, have corks that fit very tight, even after dipping in boiling water. Have a wide mouthed funnel to pass the fruit through, and a perforated ladle to drain it. A vessel of melted sealing wax should be convenient, and some bits of ice are useful.

Now take sound, ripe fruit, freshly gathered, prepare as if for the table. Prepare a kettle of syrup of the fruit if possible. When you are sure the fruit and syrup are boiling hot, begin your operations. Fill your cans while in the boiling water with fruit; fill up every crevice with boiling syrup. Close the vessel immediately and seal securely; smooth the wax with a knife and lay on a piece of ice to cool it instantly, and if you use tin cans, set them at once into cold water.

To seal up instantly in air-tight cans, sound, fresh fruits or vegetables while boiling hot, is the whole mystery of potting.

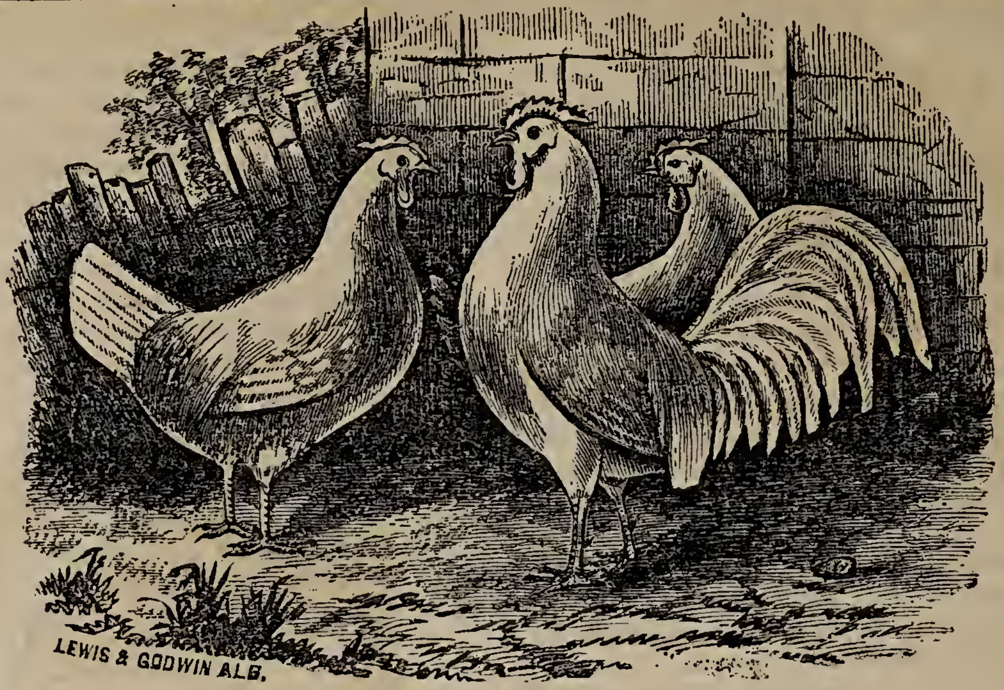
Two parts beeswax and one of rosin makes good sealing wax. Plaster of Paris, mixed to a paste, small quantities at a time, makes a good seal for pickles or preserves. We have seen our friends, the shakers, keep peaches in perfection in wide mouthed stone jars, over which a stout cloth dipped in beeswax, was snugly fastened.

Tin cans made when it was customary to solder up fruit, can be made very convenient by putting on them rings two inches deep, and one inch larger in circumference than the opening. A cork fits into the ring as into a bottle, and makes the can quite as convenient.

If your fruit keeps well, it will shrink from the mouth of the bottle; if in cans, they will show no signs of swelling, or may concave slightly. A cool, dry place is of first importance in keeping potted fruits, preserves, &c., and we reiterate light is the most active agent of destruction with which the housewife has to contend in any department. A House-keeper.

BEAN SOUP.

Take one pint of beans, and half a pound of fat salt pork, and put into four quarts of cold water. Let them boil slowly for four hours—then strain through a colander, mashing the pork and beans until all but the skins have passed through. Strain it through the colander a second time. Season with pepper and salt. Let it boil slowly another hour, and serve hot. If any is left, it is equally good the second day. It requires a good deal of seasoning.


LEWIS & GODWIN ALB.

WHITE DORKINGS.

THE WHITE ROSE-COMB DORKING.

The Dorking Fowl—its History, Origin, &c.

Of the origin of the Dorking breed of fowls, little is positively known. "We believe," says the author of the English Poultry Book, "that the fowl now known as the Dorking, might be much more correctly designated the *English Fowl.* This opinion is founded on the probability that they are either lineal descendants, of course with various intermixtures, from those which our British forefathers bred at the time when they first became intimately known to the Romans; or that they are similarly descended from fowls introduced by those conquerors of our island. From Cæsar we learn that the Britons had abundance of cattle, and that among the animals which they had domesticated, were hens and geese, which they merely bred for pleasure, the Druidical religion forbidding them to be employed as food.

"The pure Dorking fowl," said Mr. Martin in his work on poultry in the early part of this century, "has become extinct, or nearly so, in England." That the White Dorking had become exceedingly scarce in Dorking and its vicinity, is evident from the fact that in 1845 none were to be obtained, unless of a mongrel breed. The old white sort were altogether bred out, and the Grey and speckled varieties are now all the rage, and altogether are perhaps the best barn-door fowls in existence.

The colored Dorkings, by many persons are not considered thorough breds. The only color which is thrown by thorough-bred Dorkings is white plumage, with white bill and legs, with a supernumary hind toe. The hind toe has a peculiar form and shape in the thorough-bred White Dorking which are not shown in the colored.

"The most valuable variety of fowls," said Main, "for the table, is the Dorking breed. This is pure white, and highly esteemed for whiteness and delicacy of flesh, when served at table; they also fetch a high price in market. Color is no criterion of purity. Both the cocks and hens are usually short-legged, thickly feathered, having fine, delicate heads, with single, double, or large flat rose-like combs, which when they are in health, adds very much to their appearance, particularly if seen in the light rays of the sun."

After speaking of the good qualities of the Speckled Dorkings, Mr. Dixon says, "With all these merits they are not to be a profitable stock if kept thorough-bred and unmixed. Their powers seem to fail at an early age. They are also apt to pine away, and die just at the point of reaching maturity, particularly the finest specimens, that is, the most thorough-bred are destroyed by this malady. These and a few other apparently trifling facts, seem to show that with the Speckled Dorking the art of breeding has arrived at its limits."

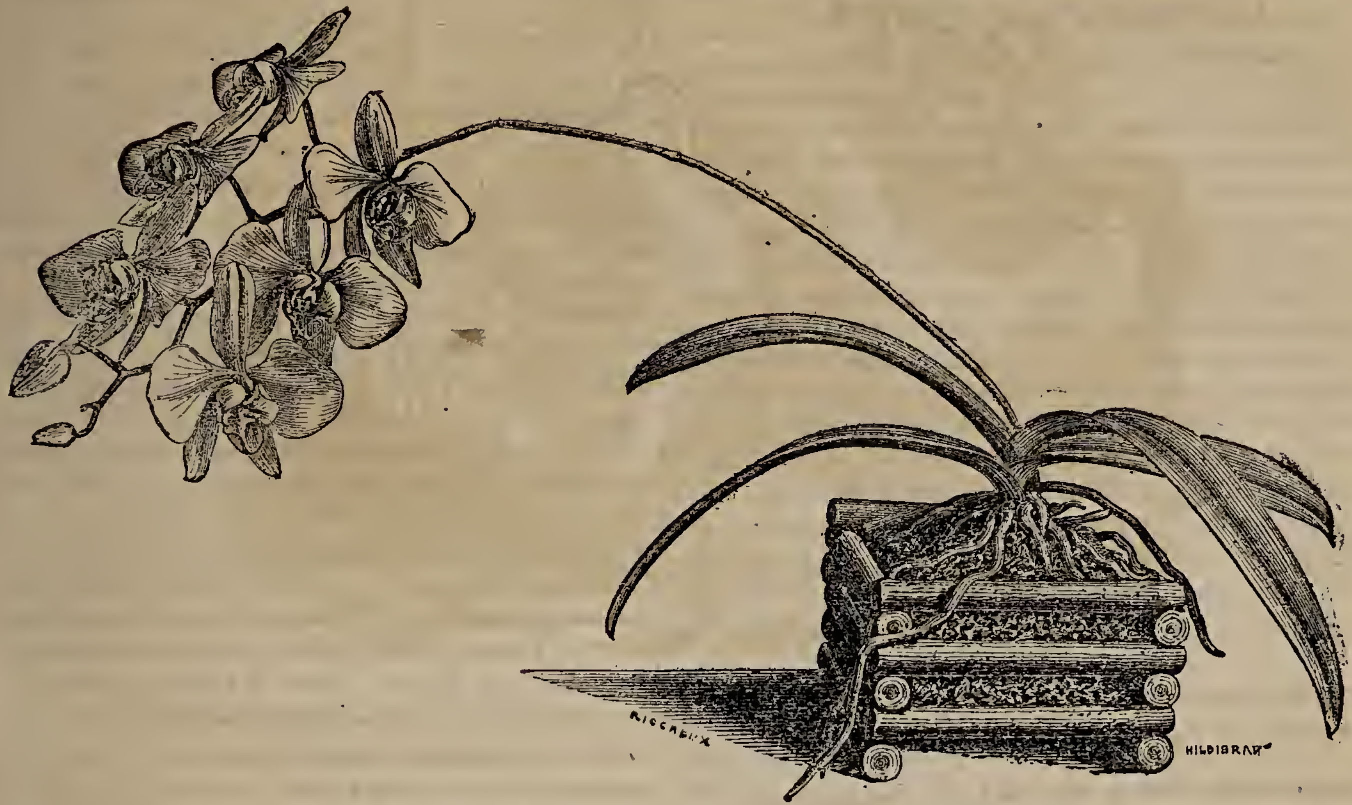
In the London markets, fowls with white legs and five toes would always find purchasers, on account of the well-known richness and flvor of the flesh, whatever might be its size, whether caponed or not. And as large fowls command much larger prices than small ones, the breeders have been induced to increase the size of the fowls, retaining as much as possible those characteristics, viz., the white legs and five toes, even at the risk of sacrificing the good qualities of the flesh. For that purpose the Chittagong fowl has been used to cross with the White Dorking, on account of the near resemblance of the color of the legs, and the great weight to which the Chittagong fowl attains.

Of the White Dorking, figured at the head of this article, so popular and so much valued in this country, Mr. Nolan of Dublin, does not speak very favorably. He says, "A very handsome little bird, purely white, but better calculated for ornamental than useful purposes—being to the colored Dorking as the Bantam is to the ordinary fowl. They are furnished with the supplimentary toe, but can bear no comparison as to value in any respect; the cock's weight is about four pounds, and the hen's about three pounds; the cock stands about fifteen inches high, and the hen about thirteen." We have seen White Dorkings answering the above description, said to be of Dr. Wight's stock, and yet we were assured that the doctor had a pair about two years old which jointly weighed about fifteen pounds. There is no doubt, however, that the colored Dorking is much the largest bird.

"I prefer," says a correspondent, "the White Dorking before any other breed known in this section of the country. They have all the good qualities in full which other breeds possess only in part; they are hardy, handsome, prolific, easily reared, and when brought to table are food for the most fastidious epicure."

Dr. Wight says: "that the Chinese possess a race of fowls which have the fifth toe as fully developed as in the Dorking, is proved by the fact that I have in my possession a pair which were sent from Nankin as choice specimens, having a snow-white plumage, and other characteristics of the true Dorking. The plumage, toes, the shape and color of the eggs, lead me to believe the Dorkings originated in that country."

C. N. BEMENT.



THE ORCHIDS---Phalænopsis grandiflora.

Of the extensive family of Orchids, our cut represents one of the finest, the large-flowering Phalænopsis. These plants form a most attractive feature in the Greenhouse, from their odd forms and singular beauty. They are originally brought from tropical regions—the one here illustrated coming from Java. The engraving shows it at one-fourth its natural size, with the exception of a small part of the stem, taken out for economy of space. Its leaves are somewhat fleshy and rigid; its flower stem, gracefully bending, bears from six to ten large blossoms of pure white. The *labellum*, or odd petal, is of a very curious form, with two side lobes turning inward, while the intermediate one, broad at its base, ends in two long twisting threads. The lower part of the labellum is striped with red and yellow, and the threads are of the latter color.

Two other varieties of this species have been introduced—the *P. amabilis*, which resembles the *grandiflora*, but of smaller flowers,—also the *P. equestris*, originally from Manilla, a variety with rose-colored blooms. The culture of all orchids, being among the nicest departments of green-house practice, we do not enter upon it here.

A Silk-Producing Insect in New-England.—Our attention has been called to an article contributed some time since to the Buffalo Express, by a correspondent who spent last winter in Massachusetts, and who claims to have good authority for the statements he makes. He says:

"Some six years since a French gentleman, who was preparing a work upon American Entomology, suspected that certain cocoons which he found, in the woods, might be silk. In a quiet way he has reared the producing worm, and studied its nature and habits, every year since. The moth proves to be the Polyphemus of Harris. It has been long known, but not as a silk producer. Harris, in his Insects, has figured the moth, and describes it as expanding its wings from five to six inches. It feeds upon the leaves of the forest oaks and birches of New-England. Its extreme range is yet unknown. The gentleman referred to has found its cocoons at short intervals, the whole distance from the Hudson river to the White Mountains of New-Hampshire. This renders it probable that the worm prevails throughout New-England, wherever its food is found; and we may fairly infer that it also inhabits the eastern part of New-York; although we do not find it mentioned by Fitch. Quite possibly the worm has a still wider range. The cocoons of this worm have been reeled, and the silk woven; and we were assured, by those familiar with the fabric, that it is both strong and beautiful. We could not obtain a specimen of it; but through the kindness of a lady friend in Boston, we procured one of the cocoons, which we now have. It is a diminutive sample, however, but little larger than those of the Chinese worm—though usually they greatly exceed these last in size."

He adds that there was some difficulty at first in winding the threads from these cocoons, owing to the fact that their adhesion is not dissolved in water alone, whether warm or cold—a difficulty subsequently overcome, however, by the use of chemical agents. "This worm is a native of New-England, and therefore requires no acclimation; nor is it subject to diseases such as would follow upon its transfer to uncongenial realms. Its food is the leaves of forest trees, that are both native and abundant." The average length of silk obtained from the silk-worm cocoon has been stated at about three hundred yards; in the experiments thus far conducted with this "American Silk-Worm," the average has been 675 yards. Of course the writer indulges in very glowing anticipations as to the future results of the discovery.

Blackberries.—Mr. JOHN C. COLLINS, Moorestown, N. J., sends a sample of what he calls the "Wilson Early Blackberry." It is described as a native of Burlington county. Mr. C. says: "Compared with the New Rochelle, it is as good a grower, and more productive. The fruit is as large, and of better flavor, commences ripening from five to ten days earlier than the New Rochelle, and yields its whole crop in about three weeks. The sample sent was grown in an old strawberry bed, the ground not having been cultivated for nearly two years, which makes them small and about five days late, but even now the bushes will yield one quart of ripe fruit each, the balance red, or nearly so. They will yield under ordinary culture, 100 bushels per acre. I planted out about five acres last spring, and intend planting 20 more next, all of this variety."

LETTERS FROM EUROPE—II.

International Exhibition at Cologne.

Cologne, June 7th, 1865.

Messrs. Editors—The journey between Berlin and the Rhine is not of a very exciting nature, the country being nearly a dead level until one reaches Westphalia, where it assumes a rolling character, and resembles in many respects certain portions of the Western part of New-York. The chief places of note traversed by the railroad, are Potsdam, so well known in connection with Frederick the Great and Voltaire; Magdeburg, once nearly destroyed by Tilly, and now celebrated for its Sauer-Kohl; Hannover, the capital of the kingdom of that name; Hamm, where I presume the famous Westphalia hams come from, and Dusseldorf of art celebrity. The old landmark of Cologne, in the same position as it was 400 years ago, the Crane upon the southern tower of the Cathedral, next comes into view, and one is soon housed on the banks of "old Father Rhine." As I dislike to have any one treated with injustice, not even a corporation, although said to be destitute of a soul, and consequently of feeling, I take this opportunity of contradicting the prevaling idea that Cologne is the dirtiest city in the world. On the contrary, quite the reverse, as a friend of mine used to say—at all events, it is as clean as any other town which I have visited on the Continent—all the rest is merely a poetical license which has been taken with the place.

The morning after arriving here, I called on the U. S. Consular Agent, Mr. G. Holscher, who accompanied me to the grounds of the International Agricultural Exhibition, where I was introduced to several members of the executive committee, and provided with the necessary tickets, etc. On the afternoon of the following day the Exhibition was opened by the Crown Prince of Prussia, the ceremonies consisting of an address by the Ober-Burgermeister of Cologne to the Prince, and a reply by the latter; the representatives from different countries were then severally presented to him. After this a procession was formed, and took up its line of march through the grounds and buildings of the Exhibition, and finally the invited guests to the number of 300, dined together in the Winter Garden of the Flora or Horticultural Society of Cologne, which is a miniature edition of the Crystal Palace at Sydenham.

The Exhibition consists of five divisions: I. Agricultural Machines and Implements; II. Domestic Economy; III. Garden Architecture; IV. Forest Products and Implements of the Chase; V. Agricultural Products and Manufactures; VI. Geological Specimens. The Catalogue comprises 164 closely printed pages, and a Supplement has just appeared of 67 pages more, to be followed, probably, by another, as it said that all the articles to be exhibited have not yet come to hand or been unpacked. The Exibition is to continue from the 2d of June to the 2d of July—just a month—which would be considered rather a long time in our country, but I do not know that it is too much for an International Fair. In a letter of this nature I can of course give very few details; but it would be impossible at any rate to convey upon paper an adequate idea of the richness and variety of the objects to be seen here. It is calculated that at least 75 acres will be required for the purposes of the exhibition, which includes, however, the Floral and the Zoological Gardens, both of which are gems in their way, and reflect much credit on the inhabitants of Cologne. The first two divisions are contained in what is called the Machine Field; the other four are exhibited on the grounds of the Flora—in both cases partly under cover and partly not, according to the character of the articles.

I am sorry to say that there are very few American Exhibitors here, and those principally of sewing machines, such as Willcox & Gibbs, Empire Company, Planer & Kayser, etc., which make a very fine show, however, and attract crowds of spectators. There are indeed a large number of American inventions to be seen, but these are exhibited by foreign manufacturers, so that there is almost nothing under the head of America. One cause of this is the short notice given—only four months, I believe—and then we have had a little war on our hands, which has kept our people busy at home. There is a fine opportunity, now this is over, for American manufacturers, especially of agricultural machines and implements, on the Continent. At present they are mostly supplied here from England, in addition to what they manufacture themselves, and it is a noticable fact that the leading English makers, such as Ransome & Sims, Clayton, Shuttleworth & Co., the Howards, Garrett, Bentall and others, are out in full force, and make a very imposing appearance. Fowler is also on hand with his Steam Plowing Apparatus, of which a trial was made on the second day of the Exhibition, and the intention is to have trials every day of the various machines. I wish there was space to describe some of the articles here, but I must reserve this for my Report to the State Agricultural Society. I will allude, however, to the collection of machines and models from Hohenheim, and also to a collection of 174 models of ancient and modern plows from Dr. Rau of Baden, both of which would be so admirable for the museum of an agricultural college.

This Exhibition promises to be a great success, and certainly its managers, among whom may be especially mentioned Messrs. Oppenheim, Asser and Rantenstrauch, have done all in their power to render the affair highly creditable to themselves and their country. I shall probably leave here to-morrow on my way up the Rhine, stopping at Bonn to visit the Agricultural Academy at Poppelsdorf, of which I will send you an account in my next letter. J. L. T.

SODA WATER POWDERS.

Will you please give me a cheap and good receipt for making soda water? There was one in your paper a number of years ago, that I thought was the best I had ever seen; my parents tried it and liked it well; it was cheap and good, and very little trouble, and made quick. It was lost by some means. If you will please republish it, you will oblige A Subscriber's Daughter.

We cannot find the receipt referred to—we therefore give the following directions for making soda powders:

The blue paper should contain 30 grains of carbonate of soda, and the white paper 25 grains tartaric acid. One pound of carbonate of soda, and 13½ ounces tartaric acid, will supply the material for 256 powders of each sort

Dissolve the contents of the blue paper in half a tumbler of water, stir in the other powder, and drink during effervescence. Soda powders furnish a saline beverage which is slightly laxative, and well calculated to allay the thirst in hot weather.

Triomphe de Gand Strawberry.

This fine variety still maintains its position for high value in most districts of the country, although in some places it is thrown out. Generally it is reported as doing best on strong or heavy soils. It needs, of course, high culture, and the cutting away of the runners—without this care it is a failure. On the whole, it has perhaps a larger vote for home raising, or for family use, than any other variety. Although not so productive as some others, some cultivators regard it as equal to any for marketing. An Ulster county friend says "my Triomphes are selling at thirty cents a quart, while Wilson's on the same days bring only sixteen to eighteen cents per quart. I shall sell upwards of $300 worth from half an acre." He adds accurate outlines of some of his large berries—not the largest but quite common, and we find them to measure fully two inches longest diameter. The Russells are nearly the same size.

ROTATION AND CLOVER.

For two years I endeavored to get clover to take, in oats, by seeding the clover when the oats was sown, but both attempts were complete failures—the object was to turn the clover under as a fertilizer for wheat. I have since cut off corn in the fall and sown the ground with wheat, using 300 lbs. "Phillips'" superphosphate to the acre, and in early spring seeding the ground with clover. The result has been very successful, having a fine crop of wheat, and clover taking well. My intention now is to mow the first crop of clover early, and plow under the second for wheat again, and seed with timothy and clover for hay and pasture, to remain in grass for several years. Now I wish to know whether you would recommend me to spread and plow under the barn-yard manure with the clover, or top-dress the clover in the fall after the wheat is cut? The land is good, and I fear that with clover and manure both for fertilizers, the wheat will lodge badly, which is the case with my present crop put in with manure only—no clover. My wish is to grow heavy crops of grass for hay and pasture, to be fed on the farm. The question is, whether after taking off a crop of corn, wheat and clover, and then turning under the second crop, the land without the manure, will bring another good crop of wheat and the grass take well. I am led to believe that for dairy farms it would be better to topdress the grass after the wheat is cut, which would insure good crops of grass. Please give me your opinion of this rotation. In this section the usual rotation is corn on the sod, followed by oats, and then wheat with the manure, seeded with grass. I think an oat crop exhausts the soil equally as much as wheat (many think more ;) the wheat and straw are both worth more, and we know that clover will take well in it. The crops in this section perhaps never were more promising, if we except the appearance of what is called here the weevil in the wheat, which is destroying the grain to a considerable extent.

Chester Co., Penn.

If the oats are sown *thin*, or not more than one-half or two-thirds the usual amount of seed, the clover will commonly succeed well. A fine top dressing of some manure will always cause the clover seed to germinate better and grow more fully. The rotation to be adopted must depend on circumstances. A soil suited to corn, oats and wheat, must be a strong and fertile one ; or if not, manure should be applied for the wheat after the oats—one of the best modes of which is to apply it after the ground is plowed in autumn, and before the wheat is sown—the manure being finely pulverized for this purpose. The manure of the preceding winter worked down, or into compost heaps, answers an excellent purpose, and it also insures the clover crop the following spring. If the soil is naturally strong, this top-dressing is best deferred, as our correspondent suggests, for application in autumn to the last crop of clover.

NANKIN OR CHINESE SHEEP.

Eds. Co. Gent.—About one year since I gave my experience for the first year with *Nankin* or *Chinese* sheep, being the stock sent out as the *Pure Breed* by an advertiser in your useful and valuable journal. I at that time promised to give my second year's experience with the stock, which I will do in as short an article as I can make it.

1st. The Pure Breed do not prove themselves with me as hardy as the common sheep of our country. Lambs treated the same, and wintered with much younger fine-wooled stock, were much thiner at shearing time though seven months older. One aged ewe lambed under favorable circumstances in February, and lost a pair of twins, though crossed stock and other breeds dropped at the same time, lived.

2nd. Productiveness.—An aged ewe had two as above in ten months from previous lambing, and the other *imported* original ewe in fourteen months produced one small ewe lamb. Neither full blood yearling gave increase with half-bloods of same age ; five of eight kept for breeding last year, produced lambs with four pair of twins.

3rd. Yield of Wool.—Weight of full-blood 16 months old, 41 lbs.; fleece of same, 1¼ lbs. Weight of fine-wooled ewe 11 months old, 41 lbs.; fleece, 5 lbs. Weight of half-blood, 16 months, 80 lbs.; fleece, 3½ lbs.—all clean washed on the sheep at the same time ; no full-blood fleece weighed over 2¼ lbs. washed wool.

Early lambs being the object for butchering, I tried crossing the same number of as near equal quality as I could procure of large roomy ewes, to a Nankin, Leicester, and South-Down buck, and fed the ewes and produce together. From these I found full as many duplicates from the South-Down as the Nankin, and the largest proportion of single lambs from the Leicester. The bucks were all fully matured, with full mouths, and equal in order. I could see nothing in favor of the Nankins in hardiness, having lost about the same proportion of each cross.

The quality in the butcher's hands is decidedly in favor of the Nankins ; from this cross all kill better than either South-Down or Leicester, and give a much larger yield per live weight than either of the other varieties, in some cases netting 20 per cent. more per carcase of same live weight. If early lambs for the butcher is the only object, I would recommend the use of a Nankin buck, but if for the permanent improvement of a flock, I should prefer the original were in some other State than Ohio.

I have tried this experiment for my own benefit, but if it will prevent others going to useless expense and trouble, I will be well repaid for my part, and hope you will be also for the space occupied in the paper. J. T. Warder.

Springfield, Ohio, June 20, 1865.

INCREASED COST OF FARMING.

It is not in the increased cost of labor only that the expense of farm crops is so much increased, but the invasion of our land by various weeds, and the crops of grain by hurtful insects, has added immensely to the labors of the farmer, so much so that it promises to work a revolution in the system of farming in this part of the country. I hear farmers talk of giving up the plow almost entirely on account of the uncertainty of the grain crops, and the increased cost of their cultivation. The corn crop, our great staple, is becoming more precarious every year from the cut worm, and now also frequently by the "hunter weevil." And the increased labor of cultivation from "quack grass," who can tell? This grass is becoming prevalent very extensively, in cultivated land, and is damaging not only hoed crops, but also oats and wheat. The farmer stands aghast at the appearance of his cornfield, so recently plowed, now becoming as green as a pasture. If his land is moist, or it is a wet season, woe to his broken back and blistered hands. He honestly thinks he had better left his land in grass. It was yielding him some pasture, though it seemed to need plowing, as the grass crop was diminishing. And this brings me to the point of my observations. Most land needs to be plowed occasionally, in order to obtain the highest product of grass. A partial cultivation of it favors the growth of weeds and bad grass. So that we are shut up to the necessity of cultivating our land very thoroughly, or of letting it lie in grass permanently.

It is well known that if we cultivate the land as formerly, (which answered very well then,) Canada thistles, quack grass and white daisies are increased by it. A crop of corn followed by oats, and seeded just sets up these pests, and fits the land for their highest prosperity, especially if the grass seed fails to take well, as it is very apt to do, with oats. We are frightened at the increase of Canada thistles, and are obliged to use the scythe now where we used to pull a few with our leather mittens on, and I am led to ask what revolution in our system of farming we must come to.

In land adapted to wheat the fallow may be best, which gives an opportunity for thorough cultivation, and prepares the land for successful seeding, which is very essential. To this end, it must be a fallow in reality, and not a slight preparation by once plowing. I know it is expensive; but is there any other way? My experience indicates that the thorough way is the cheapest.

On those farms not adapted to wheat, but good for corn and other grain, it is a most important question for the occupants, what new course is to be adopted. I wish to inquire in behalf of a great number of farmers in our State, for the best security against the depredations of the cut worm, and for some method of so far eradicating quack grass, that it shall not materially damage the crops of grain and roots.

The English farmer rakes out the quack grass, for which he has an expensive and cumbersome implement. This would greatly increase the cost of tillage, which could be compensated only by valuable crops. What crops in this country would warrant such expense, except, perhaps, tobacco or some kinds of roots?

On all land easily tilled and naturally good for cultivated crops, it seems to be plainly indicated that the highest style of farming is the style which we must be compelled to adopt. On land that is difficult of cultivation, the chief effort should be to make the grass grow. The plow should be used only at intervals, necessary to the best conditions of the grass. I am sure that it will pay to cultivate land in the very best manner, for the sake of the grass crop only; and on land not adapted to winter wheat, it is an excellent practice to prepare the field in the very best manner, and sow only grass seed—a practice which has been frequently recommended in the Co. GENT.

It is, to prepare the land as for wheat, and sow plentifully of timothy in the latter part of August, and clover early in the next spring. This would give a good opportunity while preparing the ground to clean out all the noxious grass and weeds. The expense would be well met by a heavy crop of grass, and by a great improvement of the soil. N. REED.

Amenia, Duchess Co., N. Y.

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Hedges as Fences for Banks of Streams.

The article on Hedges by Z. A. LELAND, p. 378, reminds me of an overlooked intention to tell, through the COUNTRY GENTLEMAN, how useful, and especially applicable as fence along streams, I have found the Honey Locust and the English Thorn. While the latter loses its foliage and becomes unhealthy in dry places, (dry air,) seemingly killed by winter, but really weakened by summer heat and drouth until unable to endure the winter, I find it most beautifully green and flourishing near water, and excelling all other shrubs in what Mr. Downing called "hedginess"—being erect, compact, of moderate height, very firm, not browsed by cattle, well armed, and elegantly beautiful in foliage. That it is so distasteful to cattle is greatly in its favor, as it requires less protection while growing, and an evidence of its character in this respect is that where I have it growing, troops of hungry town cattle pass along to and from their "short commons," and they daily brush leafy branches aside with their heads without biting them, while the common thorn, buckthorn, willows, and honey locust, are browsed close down to the old twigs. The English thorn comes up from seed sooner than the common thorn, so far as I have observed, and it seeds freely here.

In planting on a sandy bank of a stream, I have found the Honey Locust most enduring of the wetness and extreme dryness of the soil, and of its preoccupation by other roots. My ordinary fences being frequently injured by floods, I have planted all the low lines with Honey Locust and English thorn, and am much gratified at finding them so much easier grown, handsomer, and more effective than other plants tried. I find spring planting best for the Honey Locust. Some set in the fall did not grow uniformly.

Tyrone, Pa.

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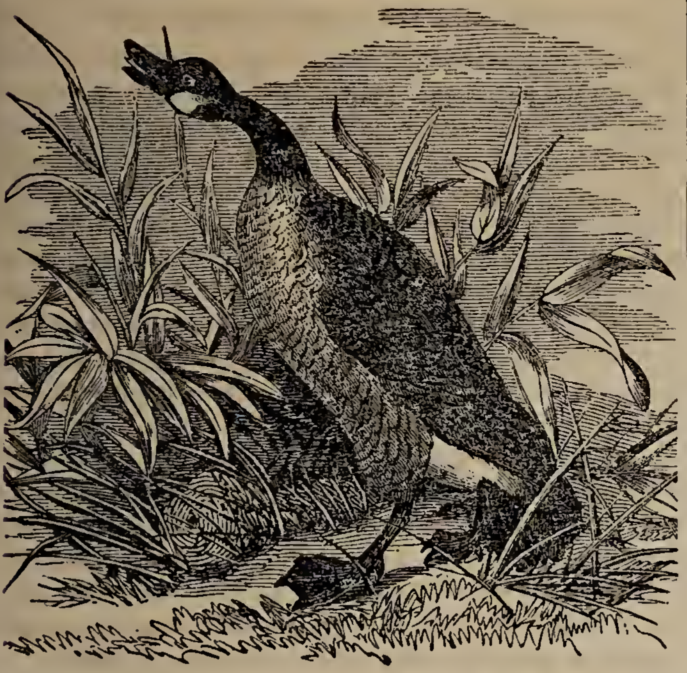
Vermont.—The Trustees of the State Agricultural College intend to decide the question of location at their meeting in August. Windsor, Rutland and Chittenden counties are wide awake, getting subscriptions.

The Fair of the Chittenden County Agricultural Society will be held on the 19th, 20th and 21st days of September. The Burlington Free Press gives a list of the premiums to be awarded, and remarks that in many classes they are higher than ever before.



CANADA GOOSE---*Bernicla canadensis.* Boie.

Our engraving is a capital representation of the Canada Goose. It owes its excellence to being copied after AUDUBON, that great painter of birds. Credit is also due to the skill of the engraver who has so faithfully performed his share of the work.

The Canada Goose is found near all the large western streams, the Mississippi, Missouri, and the lower part of the Ohio, being particularly favored by them. They also occur on Lake Erie, and on the more northern Lakes. It passes over a large portion of the United States in the spring and fall, during its migrations.

The Canada Goose has been frequently domesticated, and many of our domestic geese have some of the blood of this species in their veins.

Labrador is an extensive breeding place for this bird. AUDUBON tells us that it makes its nest in some retired spot near the water, and among tall grass. It is formed of various kinds of weeds, and is quite a large affair, being raised from the ground several inches. AUDUBON was enabled during his stay in Labrador to make extensive observations on the habits, &c., of this bird, and has left us as a consequence a valuable record of its history, from which we extract the following vivid description of its courtship, which is exceedingly interesting:

"It is extremely amusing to witness the courtship of the Canada Goose in all its stages; and let me assure you reader, that although a gander does not strut before his beloved with the pomposity of a turkey, or the grace of a dove, his ways are quite as agreeable to the female of his choice. I can imagine before me one who has just accomplished the defeat of another male after a struggle of half an hour or more. He advances gallantly towards the object of contention, his head scarcely raised an inch from the ground, his bill open to its full stretch, his fleshy tongue elevated, his eyes darting fiery glances, and as he moves he hisses loudly, while the emotion which he experiences causes his quills to shake, and his feathers to rustle. Now he is close to her who is in his eyes all loveliness; his neck bending gracefully in all directions, passes round her, and occasionally touches her body; and as she congratulates him on his victory, and acknowledges his affection, they move their necks in a hundred curious ways. At this moment fierce jealousy urges the defeated gander to renew his efforts to obtain his love; he advances apace, his eye glowing with the fire of rage; he shakes his broad wings, ruffles up his whole plumage, and as he rushes on the foe, hisses with the intensity of his anger. The whole flock seems to stand amazed, and opening up a space, the birds gather round to view the combat. The bold bird who has been caressing his mate, scarcely deigns to take notice of his foe, but seems to send a scornful glance towards him. The affront cannot be borne in the presence of so large a company, nor indeed is there any disposition to bear it in any circumstances; the blow is returned with vigor, the aggressor reels for a moment, but he soon recovers, and now the combat rages. Were the weapons more deadly, feats of chivalry would now be performed; as it is, thrust and blow succeed each other like the strokes of hammers driven by sturdy forgers. But now, the mated gander has caught hold of his antagonist's head with his bill: no bull-dog could cling faster to his victim; he squeezes him with all the energy of rage, lashes him with his powerful wings, and at last drives him away, spreads out his pinions, runs with joy to his mate, and fills the air with cries of exultation."

These preliminary manifestations being over, and the pair having made their nest as described above, the female lays her eggs. These are eight or ten in number, and of a dirty white color, which soon become soiled by the feet of the parent bird. A specimen in the writer's cabinet measures $3\frac{5}{8}$ inches in length by 2 2-8ths inches in breadth In color it corresponds to the description given above.

[A. O.] J. P. NORRIS.

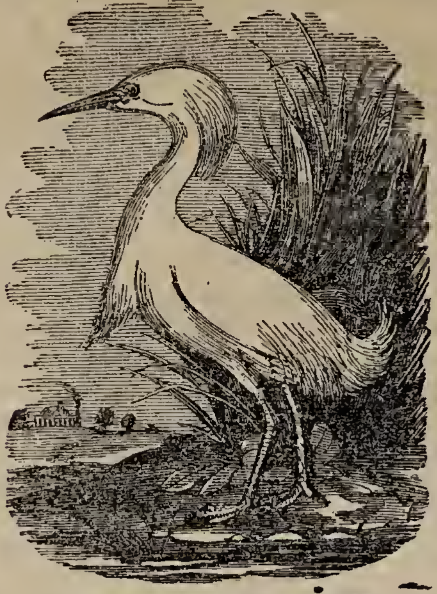
TURNIPS IN CORN.

MESSRS. L. TUCKER & SON—Some one in one of your late numbers is desirous of knowing the modus operandi of raising turnips in corn. As I have raised them in this way for the last three years, I think I can give him an insight of the matter in a very few words. I simply sow them in the corn after the last working. about the 1st of July—trying to have it come just before a rain, and I have had as high as 800 bushels in this way, and been at no expense further than the cost of the seed and the gathering them. You cannot sow too thin if you sow with judgment. I have this season sowed twelve (12) acres of corn, and shall put in 10 or 12 more with turnip seed. They will be fit to come off after the corn is cut up, and what are not worth pulling make prime feed for sheep, either in the winter or spring. Any one trying this experiment one year with anything like a fair result, will not discontinue it. I use the Red-top Strap Leaf turnip, thinking it does better in this way than any other. P. *Montour Co., Pa.*

Japan Lily.—Early in the season, Mr. JOHN DINGWALL, florist, of this city, received from the American Minister to Japan, Hon. R. H. Pruyn, a number of bulbs and plants, and among the former the *Lilium auratum*, which has flowered finely, and a sample of which Mr. D. left at our office last week. It was described as follows in a recent number of the Gardener's Monthly:

"The plant is about twenty inches in height; leaves linear lanceolate, half an inch broad and three inches long; corolla broadly bell-shape; three interior petals seven inches in length by three and a quarter in width; outer petals the same length but narrower, and spotted all over with a crimson red or brown; about two inches of the apex of the petals reflexed; stamens and pistillium prominent exerted; anthers one inch long, covered thickly with the bright cinnamon pollen. Up the center of each petal runs a broad stripe of clear bright lemon color. Added to this it is delightfully fragrant—something like a mixture of Tuberoses, Orange blossoms and Cape Jessamines, all mixed up together, and though (of course) I have not yet proved it, yet there is not the least doubt but what it is perfectly hardy, as every thing I have received from the same locality has proved as hardy as our native plants here."

This description is a very good one, and the flower is indeed magnificent. Its fragrance is too strong for a close apartment, and filled our office, with doors and windows all open, so as to be perceptible immediately on entering. It is in no respect an objectionable sort of fragrance, however. Mr. D. has little doubt of the entire hardiness of the plant.



SNOWY HERON---*Garzetta candidissima.* BONAP.

This beautiful species of Heron is to be found in Florida and Louisiana, in the winter time, where they are very abundant. It arrives in the north early in April, and gets to New-Jersey about the first week in May. From that time it is abundant along the whole coast, from New-Jersey to the Gulf of Mexico.

The Snowy Heron breeds in large numbers in the same spot, as they are an essentially social bird. WILSON describes a visit to one of these breeding places, which gives such a good idea of what they are like, that we cannot refrain from inserting it:

"On the 19th of May I visited an extensive *breeding place* of the Little White Heron, [the name which he gave it—J. P. NORRIS,] among the red cedars of Sommers' beach, on the coast of Cape May. The situation was very sequestered, bounded on the land side by a fresh water marsh or pond, and sheltered from the Atlantic by ranges of sand hills. The cedars, though not high, were so closely crowded together as to render it difficult to penetrate through among them. Some trees contained three, others four nests, built wholly of sticks. Each had in it three eggs of a pale greenish blue color, and measuring an inch and three-quarters in length, by an inch and a quarter in thickness. Forty or fifty of these eggs were cooked and found to be well-tasted; the white was of a bluish tint, and almost transparent, though boiled for a considerable time; the yolk very small in quantity. The birds rose in vast numbors, but without clamor, alighting on the tops of the trees around, and watching the result in silent anxiety. Among them were numbers of the Night Heron, and two or three Purple-headed Herons. Great quantities of egg-shells lay scattered under the trees, occasioned by the depredations of the crows, who were continually hovering about the place. On one of the nests I found the dead body of the bird itself, half devoured by the hawks or crows. She had probably perished in defence of her eggs."

From quite a large series of the eggs of the Snowy Heron in our cabinet, we find that they measure on an average 1 6-8 inches in length by $1\frac{3}{8}$ inches in breadth. They are of a pale greenish color, and are frequently covered with excrement.

[A. O.] J. P. NORRIS.

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A HEAVY MILKER.—Mr. Chenery's imported Dutch cow "Texelaar" gave in six days—from May 27 to June 1, 441 pounds 7 ounces of milk—an average of $73\frac{1}{2}$ pounds per day. She gave in one day 76 pounds 5 ounces, or over 35 quarts

VALUE OF COWS' TAILS.

MESSRS. EDITORS—I wish to say a word in favor of letting the cow wear their tails as long as nature and good keep causes them to grow. For several reasons I think it bad management to cut off cows' tails, though quite fashionable in some districts. In many sections of Massachusetts and New-Hampshire, where the soil is poor and lacking the bone-forming materials, cattle have the bone ail, as the farmers call it; then of course the tail and horns show symptoms of disease; and many suppose that by cutting off the tail when young, it prevents this tail sickness, as they call it. But that is not it. I have lived in this place for fifteen years, and have never yet seen an animal that had bone ail in this vicinity. Yet they are plenty enough in some towns near by, where clover does not grow naturally in the pastures; but where white clover abounds in the pastures, the disease is never seen. Some years ago I bought some cows that had had their tails cut off, and with shame I confess I was weak-minded enough to cut off the tails of some heifer calves about that time. But I had not milked those cows a month before I made up my mind never to cut another cow or calves' tail off, if I knew what I was about. I now value a good long tail, that with the hair on, will touch the floor or sweep the ground, as many of mine now do, an inch or two, at a high price; for, besides the great comfort and convenience to the creature, it is really much more convenient to milk, as, if the cow is inclined to switch you, just put the tail between the knee and the pail, and you have no trouble: while a tail that has been cut off a few inches is just right to hit you in the nose or eyes every time and no mistake. Try the long tails, nature's full length, and never cut one off, but comb and wash them when needed. E. P. HAYNES.

Barre, Mass.

◆

A DRESSY HEN.

I have a Black Spanish hen who demonstrates her feminality by frequent changes of apparel. She started in life black as a coal, except her face, comb and gills. Three years ago when she moulted she shed all her black plumage and became as white as snow, and remained pure white for two years. Last fall she commenced putting on black again, (the children said on account of the death of the old rooster,) and is now almost wholly returned to her original color. The few white feathers scattered through her plumage grow less daily. She has just raised and weaned a brood of chickens, and returned to her duties as a producer. The Black Spanish hens are close sitters, but very poor nurses.

C. S. L.

◆

A DUCK AND SNAKE STORY.

L. TUCKER & SON—As duck raising is in the line of your paper, I thought I would give you a short history of how it was done in the Jersey pines.

A lady near Woodmansie, succeeded in capturing and killing a large pine snake, cut it open, and took out of it several eggs. The eggs were set under a hen and hatched out ducks—I think every one produced a fine healthy duck. You may think this strange and a snake story, but I have it from one reliable, and believe it.

Explanation.—1st. The snake found and swallowed the duck eggs—2d. Snake killed, eggs recovered and set under the hen. E. OLIPHANT.

New Lisbon, 6 mo. 29, 1865.

HORNED vs. POLLED CATTLE.

Why should cattle be bred with horns? This question is frequently asked, but no satisfactory answer is given. It is said by some that the horns are ornamental. If this were true it would be unsatisfactory to those who look mainly to utility and profit. The idea that the horns are ornamental seems to arise from our having seen but few cattle without horns. We have seen more sheep without than with horns, and hornless sheep seem to us the most beautiful. If we had seen only hornless cattle, we should be as ready to desire horns upon our horses for ornament as upon our cattle.

Others say horns must be of some use, or they would not by a Wise Creator have been given to cattle. These should consider that a Wise Creator has provided for the safety of all animals—some have weapons for defence, others capacity to escape by flight, others are provided with hiding places. Horns were doubtless given to cattle to enable them to fight. If our domestic cattle were (like cattle in their wild state) so situated as to be in danger from hostile attacks, their horns would be valuable for self-defence. But now there is no more necessity of fighting among our cattle than among our children. Burdening our cattle with horns for self-defence is like burdening a man with fire-arms who is traveling among Quakers. Cattle being brought into civilized society—into the dominions of peace—their weapons for war should be thrown away.

Some of the objections to horns upon our cattle are the following:

1. They are dangerous to man and beast. Few farmers have escaped the loss of a sheep, horse or colt, from the use by cattle of their horns; less have escaped injury to some animals by their use. We hear every month of injury by them or loss of life to the human race.

2. They are of no considerable value for any purpose; they are mere useless excrescences—mere burdensome offal.

3. The growing and wearing of them and supplying their natural waste are a draft upon the system, which either enfeebles the animal or requires additional food to keep his condition up to the proper standard.

4. They are an impediment to safe and convenient transportation to market in railroad cars.

5. Horned cattle require more yard and stable room than hornless ones. Hornless cattle herd and eat together fearlessly and familiarly like sheep.

6. The carrying about of the horns is a tax upon the energies of the animal equal to the same weight bound upon the head of a hornless animal. Weight can neither be lifted nor carried without expense; weight upon the heads of cattle is carried at the greatest possible expense.

Some of these objections may seem trivial, but if on account of any or all of them cattle without horns can upon the average be produced and delivered in the Eastern markets even fifty cents a head cheaper than horned cattle of equal merit, they are worthy of the attention of all stock-growers. If it shall be found that horned cattle delivered in the Eastern markets have cost from one to ten dollars a head, depending upon age and the size of the horns, more than if they had been without horns, then it is clear that as soon as the attention of stock-growers is called to the subject the polled cattle will begin to take the place of the horned, and will in the event supersede them almost entirely. A little time spent by a stock-grower in ascertaining the cost of the horns upon his cattle, will not be time spent in vain. A careful estimate upon what has been expended in keeping warm a pair of horns of ordinary size upon a cow twelve years old will be instructive. A change from the hornless to polled cattle might seem to involve the necessity of throwing away the advantage of the improved breeds. Upon reflection it will be seen that no such necessity exists. We may easily have our hornless Durhams, Devons, Alderneys, Ayrshires or Herefords, without depreciation from the original standard. A single dip from any of these improved breeds into any of the hornless families of England or France, is sufficient to lay the foundation of a hornless variety of any of these improved breeds. One family of the Durhams is the product of a cross between the Durhams and the Galloways, and this family is not inferior to others. Unfortunately absence of horns was not one of the characteristics sought by the breeder to be carried into the product of his cross. The well-bred polled cattle of England and France are but little if any inferior to what we regard as the most improved and valuable breeds. They are exhibited at all their fairs and cattle shows.

Those who have attempted to work off the horns from any of the breeds of cattle have been astonished at the facility with which it has been accomplished. An acquaintance of the writer of this article, who keeps but few cows, has endeavored to obtain hornless Durhams by using Durham bulls to a single hornless cow and her hornless descendants. She has now hornless cattle lacking only 1-16th and 1-32d of being full blood Durhams, and in appearance they are in no respect inferior to the full bloods. With hornless cows that have but a single line of hornless ancestry bred to Durham bulls, full two-thirds of his calves are raised without horns. A hornless bull from his stock has been used to horned cows for three successive years, to his full capacity, and of his get, amounting to hundreds, but a single one has had horns. This seems to be in opposition to the generally received opinion as to the natural result of crossing between animals of opposite peculiarities. A suggestion as to the causes of this result may not be amiss. Hornless cattle generally possess a more vigorous constitution than horned cattle, and the most vigorous of the parents is most likely to impress the progeny with his or her peculiar characteristics. Domestic cattle generally make but little use of their horns, and as a consequence they are not supported by the system in any great vigor or strength. As to the horns, the progeny is therefore most likely to follow the hornless side.

Horns upon cattle are either useless, dangerous and expensive excrescences, or they are of real value. The above has been written for the purpose of eliciting discussion among stock-growers and breeders who have had experience and given thought to the subject.

Lyons, N. Y. AN OBSERVER.

The noblest question in the world is, What good can I do in it?

THE CULTIVATOR.

ALBANY, N. Y., AUGUST, 1865.

☞ It is stated that more than the usual interest is felt in the coming State Fair at Utica, throughout the central counties. The exhibition of dairy products will be very large, and we are happy to learn, although no arrangement was made by which the Cheese Manufacturers' Association as a body should exhibit, that through the individual efforts of some of its officers and others, a show of perhaps a thousand cheeses may be fairly anticipated.

If other sections of the State do their part, and our best breeders, orchardists and florists, come out as we trust they may, all departments will be fully represented, and the Exhibition will be made to show whether returning peace is quickening our desire for improvement, as the high prices of the war have strengthened our hands for its attainment. The grounds and buildings we may safely assert, will be all that the public can demand. The means of reaching them will be far better than they were two years ago—the horse railroad having now a double track, while Mayor BUTTERFIELD has also arranged to license omnibuses and other conveyances to such an extent as may be requisite. With the favorable weather which has generally attended the movements of our Society, we may expect an attendance even larger than that of the past three or four years. And the more who decide, in going, to take with them something for exhibition, the more complete and instructive a display there will be of our agriculture and its products.

Improvement in Vermont Sheep.—A correspondent of the COUNTRY GENTLEMAN in Vermont, writes that there has certainly been much improvement in the Merinos of that State, as breeders have been able "to dispose of the poorest and retain the best." But this, he adds, "is the improvement of a flock, not of an individual sheep. Better shelter in winter, and higher feeding, have increased or enlarged the production of wool and of lambs. This is the improvement of keeping. Suppose A. has a dairy of fifty cows—ten 'cream-pot No. 1,' and ten whose milk resembles that which has been 'three times skimmed sky blue,' and B. a herd of the same, and both use one bull for five years. A. raises all the heifer calves from his 'cream-pots,' and gradually disposes of his poor cows; in five or ten years all his cows are 'No. 1.' B. sells his best and poor ones indiscriminately—at the end of ten years, A.'s cows will produce twice as much as B.'s; A.'s *herd* has been greatly improved, but there has been no improvement in any one of his best individual cows. So, much of the improvement claimed for the Merinos, is an improvement of *flocks* by better shelter in winter, and by better and more uniform feeding. All this is well, and should be encouraged and understood. But the 'blood which tells' must be gained by an admixture of better blood. High feeding alone does not make a better stock-getter—on the contrary not so good."

Plow Attachment.—Messrs. J. & A. Kilmer, Barnerville, Schoharie Co., N. Y., have patented a device for regulating a chain attachment to plows, so as to enable them to turn under and cover all growth of whatever kind, which may be standing on the soil. We witnessed its operation last week on a field thickly covered with a rank growth of coarse weeds, three to four feet high. Its success was complete, every particle of the weeds being entirely put out of sight by the furrow.

The Cornell University.—The offer of a donation by Hon. E. CORNELL of Ithaca, of $500,000 to found an Agricultural College, was conditioned, as our readers may remember, upon the donation by the State to the same institution, of the avails of the Congressional Land Grant. This fund had previously been appropriated to the "Peoples' College" at Havanna, on certain terms not as yet complied with. At its last session the Legislature passed an act giving three months longer for compliance, in default of which the land was to go to Mr. Cornell's University. The Regents of the University met last week to fix upon the sum of money they deemed requisite for the People's College to raise to meet this emergency. The limit of three months expires on the 27th inst. The remaining time for action is therefore short, and in order to settle upon a limit, it was thought a definite sum should be named. It was therefore agreed, that in order for the People's College to avail themselves of the benefit of the act of 1863, they must deposit for that purpose the sum of one hundred and eighty-five thousand dollars. Mr. Cornell was present, and assured the Regents that whenever the matter was definitely settled, he was ready to proceed with his proposition, and the construction of the Cornell University could be commenced at once.

Result of Irrigation.—A correspondent of the COUNTRY GENTLEMAN submits a statement as to an experiment in Irrigation carried out by a friend, who although a clergyman by profession devotes considerable attention to agriculture: "Some four years ago, I think, he bought eight acres of interval land, lying upon a small mountain brook, of so poor a quality that the former owner had been able to get only about three tons of hay from the 8 acres annually, though one year he did cut *almost* four tons or half-a-ton to the acre! The purchaser expended nearly $200 upon a system of troughs, dams, locks, gates, and pipes, with which, when completed, he could irrigate any rod of the whole surface ankle deep in water in a very short time, and this, too, from a brook which could probably all run through a trough 6 or 8 inches square without pressure. Now for the result—the first year he cut *eight* tons of hay; the second year, which was 1864, and very dry, he cut *fifteen* tons; and this year he expects to cut *twenty* tons! "His theory is that the water brings on to the land a great amount of vegetable nutriment, and also renders soluble and nutritious ingredients already in the soil in a coarse or solid state, and I think he is more than half right."

The Holmes Library.—The Editor of the Maine Farmer has proposed to the readers of that Journal, so long under the management of the late Dr. HOLMES, to contribute, in sums of $1 or over, to establish a library bearing his name, in connection with the State Ag. College. This would be at once a most appropriate memorial, and a gift of ever increasing value to the living, and we are glad to note that the proposition has been well received and is attracting considerable attention. Not only citizens of the State, but her sons who have found homes in other communities, should respond to the call, which has the endorsement and encouragement of the leading members of the State Board of Agriculture. We sincerely trust the project may meet with the large degree of success it so well deserves.

Albany and Rensselaer County Fairs. — The Albany and Rensselaer County Agricultural Societies are to hold a joint Fair this year at the *Island Park*, between Albany and Troy, on the 19th, 20th, 21st and 22d days of September. The arrangements for this Fair have nearly been concluded by the officers of the two societies, and we understand with entire harmony and satisfaction to all. The grounds selected for the exhibition are convenient and central for the two counties, and large buildings are to be constructed, and every thing necessary for the convenience and safety of the Exhibition, and pleasure of the public, will be properly attended to and arranged.

There is to be a common premium list for the two counties, and they are to share equally in all disbursments and proceeds of the Fair.

An invitation is extended to all the counties in the State to compete for premiums in every class and department, on the same basis and under the same rules and regulations as are now adopted by the Albany and Rensselaer County Agricultural Societies. The *premium list* is now in the hands of the printer, and the premiums offered are large and extended in all the departments.

This arrangement is giving general satisfaction to the farmers and agricultural men throughout the two counties, and we are assured by the officers of the two societies that no pains will be spared on their part to make the joint exhibition both attractive and profitable. We commend this enterprise to the friends of agriculture in the adjoining counties, and hope that the Fair will meet with its deserved success.

American Institute.—The Managers of the Annual Fair of the American Institute having secured the spacious Armory of the Twenty-Second Regiment, on Fourteenth-street, in the city of New-York, will there hold an Exhibition from Tuesday, the 12th day of September, to Thursday, the 19th day of October next. The place selected is the same in which the Sanitary Commission held their great fair; its location is central and accessible, while the accommodations are ample for a large and varied exhibition. The Annual Fairs of the American Institute are held for the purpose of presenting to the public specimens of Skill and Industry solely of American Manufacture and Production. The Exhibition will consist of Machinery, New Inventions, Manufactures, and Agricultural and Horticultural products.

Illinois.—At the coming State Fair at Chicago, the following special premiums—of almost unprecedented liberality, are offered to competition—whether open to citizens of other States we are not informed:

Cattle—For the best Herd, 1 Bull and 5 Cows, of any age or breed	$500
Best Bull of any age or breed,	250
Best Cow or Heifer of any age or breed,	200

"Prizes" amounting in all to $2,600, are also offered for pacing and trotting horses, "mile heats, best three in five," which we should fear would operate to withdraw attention materially from the more useful parts of the Exhibition.

Note from John Johnston.—Mr. Johnston writes us under date of near Geneva, 20th July:—

"I see you get no reports of the crops hereabouts. We have the best crop of wheat in Seneca county, we have had since 1859. Barley that was sown quite early, I think may be good; the later sown was hurt by drouth, and ears short. Oats, so far as I have seen, were never better in my time. Hay a good crop, but I have seen better. There is a good part of the corn that looks bad, and some very good; the early planted by far the best. The apple crop is as near a total failure as it can be. I never saw the like hereabouts. We have early harvest apples, but no winter fruit. No peaches, or at least very few. Plenty of grapes, and some pears and quinces. We have had heavy rains of late, and very little wheat drawn; it will be badly damaged more or less, I have no doubt."

Importations.—A Staten Island paper mentions that Mr. R. W. Cameron, a citizen of Richmond Co., now in England, has recently purchased at the annual sale held at the royal stables, Hampton Court, three yearlings and two others, bred by the late Mr. C. Greville, whose stock has always been so famous. They are of the blood of Bay Middleton, Knight of Kars and Flying Dutchman. Mr. Cameron has also purchased a number of valuable Short-Horns and Alderneys; and both the purchases of horses and of cattle are highly spoken of in the London Field. "We understand that they will shortly arrive, and that it is the intention of Mr. Cameron to convert his farm—well-known as the Camp Scott property—into a stock-breeding farm, where we feel confident fine cattle of all kinds will meet with a ready market and appreciating purchasers."

Massachusetts.—The Worcester County Horticultural Society, will hold its twenty-sixth annual exhibition of fruits, flowers, plants, and vegetables, at Horticultural Hall, Worcester, Mass., on the 19th, 20th, 21st and 22d of September, 1865. The premium list is as usual, a liberal and judicious one.

Ontario County.—The next Annual Fair and Cattle Show of the Ontario County Agricultural Society, is to be held on the Society's grounds at Canandaigua, on the 20th, 21st, and 22d days of September. Last year the exhibition continued only two days; but that arrangement worked less satisfactorily than was anticipated, and it has therefore been determined to return to the old plan and have a three days' performance, which, with the energetic management of the officers, and the abundant resources of the farmers of the county, is sure to be a success.

New-Jersey.—The Burlington County Agricultural Society will hold its 19th Annual Exhibition at Mt. Holly, Oct. 3d and 4th next. Geo. B. Deacon, President; Benj. Buckman, Secretary.

Hay Making---Hay Barometer.—The advocates of the earlier and later period of cutting grass have settled the question so far that the controversy is narrowed to the point whether it should be cut just as the blossoms unfold, or when the seed is matured. Now if the farmer commences haying at the first period, by the time he has cleared up all his meadows he will have just what he wants, earlier succulent grass for his cows and riper grass for his stock, and thus meet the views of all the controversialists.

On most farms in western Massachusetts the grass is cut just as the thistle down begins to fly, and I presume that otherwise noxious weed is allowed to grow so as to serve as a natural barometer by which hay makers can be surely guided ! R. G.

Sales.—Mr. M. Case, Avon, Ct., has lately sold the following Short-Horns: To Paoli Lathrop, South Hadley Falls, Mass., the cow "Rosalea," out of Tube Rose 5th, by Red Rover 2109; the cow "Rosalea 2nd," out of Rosalea, by Young Marmion 3602, and the heifer calf "Rosalea 3rd," out of Rosalea, by Berkshire Duke 2539.

Willow Peeler.—Geo. J. Colby of Waterbury, Vt., offers $10,000 for the patents covering the rights for the best willow-peeling machine that may be invented within three years from May 18, 1865.

Birds Prefer Insects to Fruit.—A correspondent writes us from Newark, N. J., that he is well convinced of this fact. He says: "Those who are fond of shade or fruit trees should spare the birds. We have cherries for them, and raspberries and strawberries, if they want. I noticed that many of the leaves on my apple and plum trees had been eaten by the caterpillars, but could not find enough of those insects to account for the damage; a fact which was explained when I discovered the young cowbirds catching them, at about the rate of one a minute—coming for the purpose within ten feet of the door where we were passing in and out, as tame as so many chickens. We have now no clatter from the robins that have their nest in the garden; they have dropped their song, and are busy attending their brood. The spotted thrush was as familiar, and as free with his song, all the spring, but now is silent. I suppose they, too, are brooding."

Wool Premiums.—In compliance with a resolution passed at the last State Agricultural Convention, the Ohio State Board of Agriculture offer the following premiums—with a view to ascertain the amount of shrinkage in unwashed wool:

For the heaviest fleece of scoured wool produced by a ram,	$20
For the heaviest fleece of scoured wool produced by an ewe,	20

The fleeces to be sent in an unwashed state to the Agricultural Rooms in Columbus previous to August 1st, accompanied by a pedigree of the sheep which produced them, and an affidavit setting forth the time and manner of shearing in 1864 and 1865, that the fleece presented is the production of one sheep in that time, the weight of sheep after shearing, condition of the same, and manner of keeping for the past year. With the fleeces of ewes, parties will be required to state whether they have suckled lambs the present season; with aged ewes, if they did so in 1864. In making awards, due regard will be paid to the percentage of wool produced, compared with the live weight of the animal. The committee will carefully weigh and number each fleece, sending them to be scoured without the name of the owner. The awards will be made and the fleeces exhibited at the State Fair, Sept. 12th and 15th, after which they will be returned to their respective owners.

Subjects of Discussion.—The following topics are to be taken up at the next State Fair at Utica, and it is to be hoped that those attending will be prepared to join in their discussion:

1. *Tuesday Evening, Sept. 12th.*—"Ought Pastures for the Dairy to be kept permanently in Grass, or to be renewed by Plowing and re-Seeding?" X. A. Willard, Esq., of Little Falls, will open the discussion.

2. *Wednesday Evening.*—"Best time for cutting grass, and best method of preparing grass for hay." J. Stanton Gould to open the discussion.

3. *Thursday Evening.*—"Best method of cultivating and curing tobacco; lands best suited for its culture; its value as a crop." T. G. Yeomans, Esq., to open the discussion.

Cleansing Merino Fleeces.—The New-Hampshire Journal of Agriculture has made the following offer:

"The New-England Fair comes off at Concord the first week of September next. Now if the breeders of Merinos, South-Downs, Leicesters and Cotswolds in New-Hampshire, Vermont, and other New-England States, will send to us five fleeces from their several flocks we will have them cleansed at one of the best manufacturing establishments in New-England, and the cleansed wool, with its loss by shrinkage, shall be on exhibition at Concord in September. This proposition is open until the 15th of August."

From the last number, it seems that our contemporary is very much in earnest, and if the wool-growers do not care to accept the above proposition, the cleansing will take place all the same nevertheless:

We wait impatiently to hear from some of the owners of "crack fleeces," notifying us of their intention to comply with our proposition. If we don't hear from such soon, we propose employing one of the best "wool sorters" in the parts to select some of the large fine and course wool fleeces, from certain warehouses in Boston, have them cleansed and on exhibition at Concord the first week of September. *There will be an exhibition of fine and coarse wool at the New-England Fair.* We have made a fair proposition to the wool-growers, in order to test this matter of shrinkage, and if they are going to "play shy," why, our next course, and only one, if we are to test the question at all, is to propose to the wool purchasers and wool manufacturers to send us "crack fleeces from their storehouses" for the purpose of cleansing and exhibition. We have determined upon this course.

"Go to Work."—We intended sooner to have acknowledged the receipt of the Southern Cultivator, for the months of April, May and June,—the only agricultural paper in the late "Confederacy" which has survived the fortunes of war. Some good advice is given in the last issue under the head above quoted, urging the planters of the South, by the exercise of industry, economy and patriotism to retrieve the losses of the past and recover the prosperity they have lost, for themselves and for their States. The writer forcibly says:

"Why then leave the country at all! Will it pay? You are ruined in means. You cannot retire in affluence, to waste in foreign lands the remainder of your lives, in idleness and ignominious ease. Shame on your patriotism and manliness if you would! There is no land where you can get your bread without labor. It may be a harsh, unpalatable truth, but it is a truth that will bear to be repeated—THERE IS NO LAND ON THIS BROAD EARTH, WHERE, unless in quite exceptional cases, MAN CAN GET HIS DAILY BREAD, EXCEPT BY HIS DAILY LABOR. This, you and we, and all of us, may as well accept at once as our inexorable fate. Could we have saved our remaining possessions, now swept away by war, even though our slaves were gone, perhaps we could in our own persons, have avoided this destiny. But the necessity would have none the less certainly descended upon our children; and let us have the manhood to accept ourselves, the heritage of labor that inevitably would fall to them. * * Yes, we must accept the conditions God's providence imposes; we must work; and to our industry we must join a wise economy. Industry and economy will again bring us wealth and culture, and domestic comfort, and ultimately restore to us political power."

Several other articles are written in a similar tone, and if duly regarded cannot fail to do good.

From the prices quoted in the June number a return had evidently been made to dollars of the "greenback" description. In the "Confederate" dollars of April, the price of flour was $450 to $500 a barrel, tea $150 per lb., wheat $60 per bushel, paper $25 per quire, sugar $23 per pound, and apples a dollar apiece—and, as a postscript informs us, "greatly advancing" every day.

Sales---Advertising in the Country Gentleman.—GEO. D. PARISH, Esq., of Burlington, N. J., writes as follows, under date of July 7th: "On the 3d inst. I sold the Green Hill Farm, [first advertised in this paper of June 22d,] for $175 per acre, 365 acres, to Mr. Geo. D. Buckley, of Ohio. Mr. Sherman Hartwell, Washington, Conn., has bought one Cotswold Ram and two Ewes from Mr. RICHARDSON's flock; Mr. Edgar C. Armstrong, Florida, Orange Co., N. Y., has also bought a ram, two ewes and lambs of Cotswolds, and some Leicesters. Various other buyers have purchased—ALL REFERRING TO THE ADVERTISEMENT IN THE COUNTRY GENTLEMAN."

This is an additional and very pleasant illustration of the fact that when *any thing good* is offered, no surer way of finding purchasers is accessible than to advertise it in our columns. Here are sales from a single adververtisement amounting to upward of $65,000, *within a fortnight after its first appearance.*

Inquiries and Answers.

Draining.—I would like to inquire the best plan to drain a piece of spouty land? It is situated on the side of a piece of rising ground where there is plenty of fall to the outlet, but the bottom is all quicksand, so that tile will sink and fill up. I had it ditched with a mole-plow, but it did no good. There is a strip of dry ground between the swamp and the creek. Will some person that has experience in such work, answer the above, and oblige one who is trying to improve his farm. A SUBSCRIBER. [As a general rule, the best way to drain such land is to place the ditches at equal distances, parallel to each other, and running down the hill by the shortest or most direct course. They should be placed sufficiently near each other to affect complete drainage, which is usually about two rods, the depth being about three feet. If only a portion of the side-hill is wet, they may be brought together into a large main drain. In quicksand, pipe-tile must be used, the ends being united and held in their places by insertion into tubular collars. These are easily made by cutting larger pipe-tile into short pieces when soft. If the quicksand is very soft, it may be necessary to place a strip of durable board or slab in the bottom of the ditch. Brush drains have also succeeded well for a term of years—the mode of forming which is shown in the annexed figures—Fig. 1 being the brush as first laid in the ditch, the butts pointing downwards below, and Fig. 2, the same settled under the earth.]

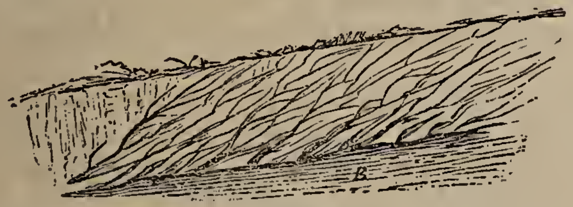


FIG. 1.

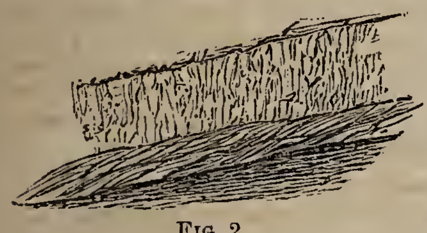


FIG. 2.

Grape Insect.—My grapevines are beginning to suffer from the attacks of a small insect about one-eighth of an inch in length, which flies and leaps with great agility, eluding the touch, but flying into your face as you approach the vines. When full grown and examined under the microscope, its wings appear beautifully variegated with different colors. It feeds upon the leaves until they turn white and seem to lose their vitality. Last year my Delawares were very much retarded in their ripening by the attacks of this insect. The Delaware, Allen's Hybrid and Isabella, seem to suffer most from it. I suppose it is the thrips or leaf-hopper. It does not seem to dislike whale oil soap or sulphur. Is there any remedy for it? C. S. L. [We have heard of this insect, but have fortunately had no experience with it. It is doubtful if any nostrum can be found to kill it—but it may be well to try dusting the leaves from a dredging box filled with white hellebore, which proves such a perfect remedy for the attacks of the currant worm.]

Multicole Rye.—A few years ago this rye was highly extolled through our agricultural papers. Will the editors or readers of THE CULTIVATOR please give me some information as to whether it has continued to prove worthy of the high favor it then enjoyed, and if so, of whom can I procure some seed? S. M. WINN. *Columbia Co., N. Y.* [We shall be pleased to hear from any of our readers who have tested the value of this rye.]

Berkshires.—*E. S. Monrovia, Ind.* White spots *are* regarded as marks of impure blood in Berkshire pigs—or *were*, when the breed, was first introduced, and more was thought than at present of the importance of maintaining its purity.

Failure of Raspberries.—Two years ago I set out in my garden some 100 Brinckle's Orange raspberries, obtained from a respectable nursery; they were laid down and covered in the winter—also kept well cultivated and trimmed. Last spring they blossomed finely, but yielded no fruit; some few of the heads had one or two small bulbs of fruit on them, but not a perfect berry. This season they again blossomed similar to the last, but no fruit whatever is to be found on them. Can you tell me what is the matter or cause of this? They are in good soil; some of the shoots from them, transplanted last year in another situation, have given the same result. Your answer will oblige ROKEBY. *Chester Co., Penn.* [Having never met with a similar difficulty, we are unable to assign the cause. Can any of our correspondents throw light upon the subject?]

Insurance on Live Stock.—Can you inform me whether there is a life insurance company for animals? If so, where can I get the necessary information to get some valuable animals insured? By so doing you will confer a favor on many of your readers. *Sandy Springs, Md.* [There have been two or three companies organized in this country for this purpose, but we believe they all soon gave up the business for want of patronage.]

Grass Bug.—I have noticed more of the effects of the *grass bug*, (don't know what to call it) than ever before, but don't know as it is very injurious. Its color is a greenish white, about 5-32 of an inch long, with an intermittent elongation of its hind parts, about once per second, making its entire length about ¼ inch, with six short legs, and two black eyes. It covers itself midway on the outside of the stalk with froth or spittle, white, and enough to half fill a small teaspoon. What is the name of said bug, and what its history? R. N. *Randolph, Vt.* [We have not met with this insect—can any of our correspondents give the desired information.]

Works on the Bee.—If there is any work on the management of bees that will be of use to me, I would send for it. W. HALL. [Quinby's is a very practical and useful work—price $1.75; a new edition of Langstroth is expected next winter.]

Rose Insect.—How can we destroy the small green worm that infests our rose-bushes, eating all but the skeleton of the green leaf, thus robbing them of half their beauty when in bloom? A SUBSCRIBER. [Probably a slight dusting with powdered white hellebore, which has proved so successful with the currant worm, would be effectual.]

Harris' Insects.—*J. E. P., Worcester, Mass.* You can get this work of the publishers, Crosby & Nichols, Boston. The price we believe is $3—an extra fine edition, $6.

Berkshire Pigs.—Judging from inquiries on this subject, those who have these pigs of undoubted purity would do well to advertise them.

Churn.—What is the best churn in use for say twenty gallons of milk per day? I need one very much. W. H. [The largest size Thermometer churn is the best we know of—can any of our dairy managers tell us of a better?]

Failure of Raspberries.—Is Rokeby sure he has Brinkles' Orange? I think he must have Col. Wilder—my Col. W. having always acted as he states his does, and my Orange always bearing a crop with protection. I have had both for seven or eight years, and never had half a pint of berries from the Col. W. P. O. *Somers, Wisc.*

Shares' Harrow.—I purchased a Shares' harrow last spring, and am very well pleased with its work on newly broken sward. The teeth of the harrow differ materially from the spike-like teeth of the ordinary harrow, bearing some resemblance to the plow share. They are so shaped as to present sharp cutting edges both vertically and horizontally, the object being to reduce the surface presented by freshly broken sward, to a fine condition for a depth sufficient to supply plenty of fine soil for any hoed crop. Wherever the turf presents itself it is cut up into small pieces, easily worked by the hoe. To obtain the best results, a couple of heavy logs should be chained on top, and the ground should be gone over two or more times. J. J. H. G.

Troublesome Bull.—Get a trace-chain about fifteen feet in length, with swivel in it; put it around his horns not too tight—a ring at the other end, and a good stake—the stake not too large, so the ring can turn around it with ease; a wooden stake, with a good head, will do, unless in hard land, when iron is preferable. Then stake him in your lot to graze, and you will have no more trouble about fences. P. O.

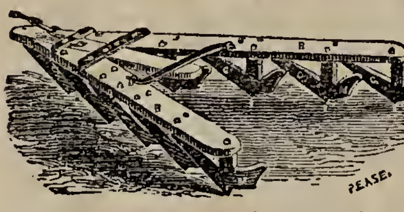
Cream Crackers, &c.—Will some of your readers give a recipe for making cream crackers, or the kind that melt as soon as you put them in your mouth? Also directions for making ice cream? S. E. R. *Eureka, Ohio.*

Wens.—Has any one of my brother farmers ever known a wen to grow on the tuft of the nose of a creature, and directly between the nostrils? I have a valuable cow that has a bunch there about the size of a butternut. It has been growing for some little time. If not a wen, what is it?
WM. E. COWLES.

Gooseberry Worm.—In reading my CULTIVATOR last year I notice an article on the currant worm, but it is a different worm from what I found on my gooseberry bushes last year and on my current bushes this season. The worm with me is yellow on the back, spotted with black and pale green—when full grown some inch and a half long. They walk like the canker worm, doubling themselves up and reaching forward their length—give the bush a jar and they spin down by a web to the ground. Are they the canker worm? Those spoken of in the CULTIVATOR last year are green and very numerous, but those with me are not very numerous, *but a great many more than I want.* The majority of them received a lasting impression with my thumb and finger, and the heel of my boot, which will do me good, if it does not them. J. E. P. *Worcester, Mass.* [The canker worm in its larva state is quite variable in appearance, and about an inch long. The worm above described is probably some other insect. In order to ascertain its character feed some of them in a gauze cage, and keep them until they come out in the perfect state. Doubtless the white hellebore dusting would kill these as well as other leaf eaters.]

Copperas for Currant Worm.—The CO. GENT. for July 6, gives a mode of destroying the currant worm by copperas water, which might be very valuable if it were not so vague. The time for using this remedy is not given, nor the quantity to be used for each bush, nor is it stated whether the application is to be made to the root or to the branches of the currant bush. One pound of copperas to five or six gallons of water, would make a solution strong enough I think, to destroy the leaves of any plant. A much weaker solution than this will destroy the leaves of pear trees. A. B. [The object of applying the copperas water is evidently for the purpose of killing the insect by its devouring the copperas with the leaves. We do not know of any experiment made with it, although so easily performed. All remedies to repel insects, short of killing them, are of little or no use.]

Shares' Harrow.—Will you or some of your correspondents give a description of Shares' Harrow? A SUBSCRIBER. [This is the most perfect of all implements for pulverizing the freshly inverted surface of sward land, to a depth two or three times as great as the common harrow can effect.—The teeth being sharp, flat blades, cut with great efficiency; and as they slope like a sled-runner, they pass over the sod, and instead of tearing it up like the common harrow or gang-plow, they tend to keep it down and in its place, while the upper surface of the sod is sliced up and torn into a fine mellow soil. No person who prepares sod for corn should be without this efficient pulverizer. Being made of cast-iron, the teeth soon become dull, and of little use—if the manufacturers would use steel plate instead, its value would be many times greater.]



Red Top.—I wish to make an inquiry about a "red top grass," and where it can be had, and at what price? It seems very strange that seed dealers are not sagacious enough to advertise their seeds in the COUNTRY GENTLEMAN—they do not understand the advantages of advertising, or they would. The seed I wish to obtain is a timothy—with red top and somewhat resembles the blue grass of Kentucky except in color—its proper name I do not know, but it is represented as a vigorous and speedy grower, capable of converting swamp land into meadow, and rendering it solid enough in a year or two to bear the teams to haul off the hay. If you know of such please advise me, and much oblige J. D. R. *Somerset, Pa.* [The common red top, *Agrostis vulgaris*, has a panicled head like the blue or June grass, and not a solid spike like timothy. Its name is derived from the reddish purple color of its loose heads. It grows well on moist land, but will not grow in swamps or bogs that have not been drained. It is not so stout a plant as the timothy, and could not be expected to form a turf solid enough to bear teams. The seed is sold at the large city seed stores—probably by Thorburn of New-York.]

Interfering Horses.—Some time since a Subscriber, Georgetown, D. C., inquired for a remedy for interfering horses? Pare the inside of the hoof alone, as it will bear, leaving the outside as full as possible, so that the shoe will set level. His smith will object, but tell him if he won't obey, he can't shoe your horses. If Subscriber don't discover the philosophy of the plan, if he addresses me I will explain.

Waterbury, Conn. B. H. ANDREWS.

REPORT ON SCOURED FLEECES.

The Report of an able and practical committee on 14 Merino fleeces and 1 Cotswold, entered for scouring at the Show of the State Wool Growers' Association, has appeared. The care with which their duties have been discharged, and the full details they present, render their report one of the most instructive and valuable documents on the subject that has ever appeared. It could only have been bettered if the competition had been larger, so that the results could have had a basis of still greater certainty—and yet we fancy there will be very little doubt that these results may fairly be considered of general application.

We publish herewith the table accompanying the Report prepared by one of the members of the committee.

His manner of making the computations he describes as follows: — "Divide the weight of the scoured fleece by the number of days it was growing. This gives the amount produced by the animal in a day. Divide this small fraction by the live weight. This gives the amount grown by *one pound* of animal in *one day:* multiply the fraction by 365 and it gives the amount grown by one pound of animal in a year, (this is the figure that decides who has won,) and this, multiplied by the live weight of the animal, tells how much it would produce in a year. This last operation proves the three foregoing calculations. The per centages of fleece to live weight, and of scoured wool to live weight, are computed in the usual way."

The committee point out that this examination brings additional confirmation to the rule heretofore tolerably well established, "that in the main, small sheep, having more surface in proportion to their weight, do give more wool per pound of body," and, therefore, that "for the mere purpose of wool raising, very large sheep are not desirable." This rule is well illustrated in a comparison which we have been at some pains to carry out, between the average returns of the first seven sheep in the order of merit, with those of the last seven—an average of a certain number constituting a better foundation for conclusions, than results from the same cases taken one by one. Thus we have:

	1ST SEVEN.	2D SEVEN.
Weight of Animal,	51 lbs.	77 lbs.
do. Fleece shorn,	10.51	14.75
do. Scoured Wool,	4.22	5.00
Per cent. of Fleece to Live Weight,	20.50	18.74
do. Scoured Wool to do.	8.17	6.41
do. do. to fleece,	40.23	34.31
do. of Shrinkage,	59.77	65.69
Quantity of Wool produced by 1 lb. of animal, in 1 year,	.08181	.06422

Judging from a casual glance at the first three lines in this table, one might say—"Well, if the second seven *are* larger, and therefore require more food to keep them, they also produce a heavier fleece, and more cleansed wool." So they do, but not in a proportion equivalent to the increase in size. It will be found that each 50 lbs. in the animal's weight, taking sheep possessing the characteristics of the *first seven*, produce, in one year, a fleece weighing as shorn 10 lbs. 2¾ oz., while the same live weight, taking those similar in character to the *second seven*, produce 9 lbs. 5½ oz.—a difference of a fraction over 13 ounces uncleansed wool in favor of the former, in annual return. This is something, but there is a difference on shrinkage in cleansing, to be brought into the account, for the yield of clean wool will stand in the one class at 4 lbs.

NAME OF OWNER.	Order of Merit.	Sex of the Animal.	Age in years and days.	Condition of the Animal.	Weight of Animal.	Weight of fleece shorn.	Weight of scoured wool.	Per cent. of fleece to live weight.	Per cent. of scoured wool to live weight.	Per cent. of scoured wool to fleece.	Per cent. of shrinkage.	Age of fleece in days.	Quantity produced in each day.	Quantity produced by 1 lb. of animal in one day.	PRIZE COLUMN. Quantity of wool produced by 1 lb. of animal in a year.	Quantity produced by each animal in one year.
A. H. Clapp, ...	1	ewe,	2.	fair,	49.	9.85	4.75	20.	9.6	48.	52.	367	.01294	.000264	.09636	4.72
L. J. Bovee, ...	2	ewe,	.356	do.	53.	11.21	4.50	21.1	8.4	40.1	59.9	356	.01264	.000238	.08687	4.60
Wm. M. Holmes,	3	ewe,	1.43	good,	47.	8.97	4.43	19.	9.4	49.3	50.7	408	.01085	.000230	.08395	3.94
D. W. Percy, ...	4	ewe,	2.	do.	63.50	14.43	5.12	22.7	8.	35.4	64.6	373	.01372	.000216	.07884	5
M. F. Gibbs, ...	5	ram,	1.1	do.	50.50	11.31	3.97	22.3	7.6	35.1	64.9	366	.01084	.000214	.07811	3.94
Josiah Taft, ...	6	ewe,	.331	thin,	33.	7.03	2.28	21.3	6.9	32.4	67.6	331	.00688	.000208	.07592	2.50
O. S. Williams, ..	7	ram,	2.	do.	61.	10.81	4.47	17.	7.3	41.3	58.7	368	.01214	.000199	.07263	4.43
E. Gazley, ...	8	ewe,	1.20	fat,	99.50	8.90	7.31	8.	7.	82.	18.	385	.01898	.000189	.07098	7.06
Arnold & Green, .	9	ewe,	2.	good,	55.50	9.15	3.59	16.	6.2	39.2	60.8	336	.01068	.000192	.07000	3.88
P. H. McMillen, .	10	ewe,	1.4	fair,	68.50	12.42	4.81	18.	7.	38.	62.	369	.01303	.000190	.06935	4.75
Theron Steele, ...	11	ram,	1.60	good,	77.50	15.72	6.25	20.	8.	39.1	60.9	425	.01470	.000188	.06862	5.31
G. S. Center, ...	12	ewe,	1.347	fair,	54.50	10.25	3.33	18.	6.1	32.4	67.6	341	.00976	.000179	.06533	3.56
J. C. Sweet, ...	12	ewe,	2.	do.	78.50	17.50	5.31	22.2	6.	30.3	69.7	376	.01412	.000179	.06533	5.12
A. J. Blood, ...	12	ram.	4.	good,	95.	20.09	6.56	21.	6.9	32.6	67.4	385	.01703	.000179	.06533	6.20
L. J. Bovee, ...	13	ram,	1.15	do.	108.50	18.09	5.18	16.	4.7	28.6	71.4	380	.01363	.000125	.04562	4.94

1⅛ oz., against 3 lbs. 3⅜ oz. in the other—showing that the yield of the former, in *scoured wool*, is a fraction more than *twenty-five per cent.* greater than that of the latter. Now, if the careful experiments instituted in England in the feeding of sheep, have given trustworthy results, sheep consume food in proportion to live weight; and when it is the farmer's simple object to turn the food expended into as much wool as possible, two sheep of the right stamp weighing together 100 lbs., would consequently be more profitable than a single sheep of that weight, in just the proportion above indicated.

But there is one other observation which will occur to any one who examines this table with care—namely, that, irrespective of live weight, all the "brag fleeces" of which we hear so much, will naturally fall under the latter and *less profitable* of the two classes. Thus we lately copied from a contemporary, a statement of the cleansing of ten fleeces clipped at a shearing in Indiana this spring, on which the shrinkage averaged over 65 per cent., or almost identically the same as the average result of the inferior seven on the accompanying table. The three sheep sheared at Canandaigua which gave the heaviest fleeces—of which the most would have been said in the papers, and to doubt the excellence of which would have been to "attack" the "American Merinos,"—stand here together *at the very bottom of the list.*

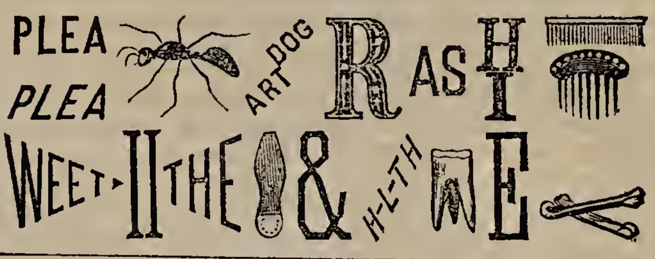
Indeed it is singular to remark how the *percentage of shrinkage* appears to *increase* as you follow the table down, so that this item alone, aside from any comparison with live weight, seems almost sufficient to indicate the value of the animal. It is true that this increase is not a regular one, as regards the individual animals, but it is so when we take them in lots. Thus the shrinkage—

On the first four,	averages	56.8	per cent.
On the second four,	do.	63.0	do.
On the third four,	do.	65.0	do.
On the last two,	do.	69.4	do.

And, with these figures before us, we cannot well avoid this second conclusion, that "for the purpose of wool-raising," sheep whose fleeces shrink in scouring over *sixty per cent.* at the ouside, are "not desirable" to the practical farmer.

One to-day is worth two to-morrows.

Illustrated Rebus---No. 23.



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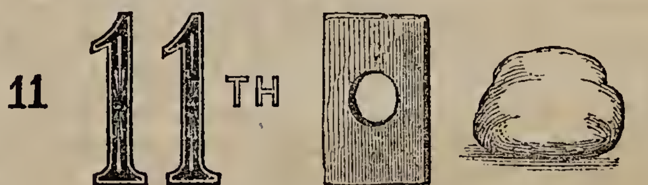
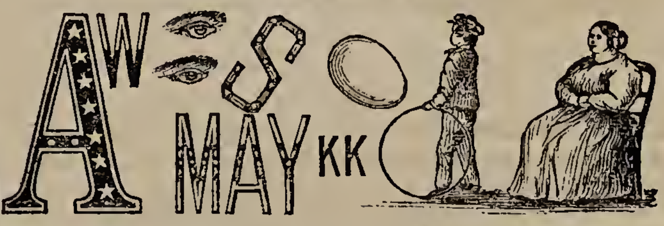


Illustrated Rebus---No. 25.



ANSWERS TO ILLUSTRATED REBUSES.—No. 19. Cot-on-can knot egg-n bee king. "Cotton cannot again be king." No. 20. "The burden is light that is well borne." No. 21. W-in-T-ring cat-l re-quires grate k-r. "Wintering cattle requires great care." No. 22. "Cabbage plants well propagated are almost sure to head."

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WANTED.
A Good Shepherd or
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July 6—wtf Spring Station, Woodford Co., Ky.

Cheese Factory at Adams, Jefferson Co., N. Y.

A few notes taken last fall during a visit to Adams, Jefferson Co., form the basis of the following article relating to the cheese factory at that place.

The factory, with its machinery, vats, &c., is owned by Lewis, Huestis & Ingraham, who furnish the labor and make the cheese, and receive therefor one cent per pound. The farmers who furnish the milk, supply also the salt, bandages, boxes and other materials used in the manufacture. A committee appointed by the farmers sell the cheese.

The building is situated about 30 rods from the Rome and Watertown railroad, on a stream called Sandy Creek. It is of wood, 144 feet long, 30 feet wide, and is two stories in height. The water used is received through pipes from a spring about 40 rods distant from the building, and is of the uniform temperature of 44° at the spring, and 48° at the factory. A small building a few feet distant from the factory, contains a steam boiler for heating purposes. The vat room is 36 feet wide, and 48 feet long. There are 4 vats of tin, each 3 feet 4 inches wide, 14 feet long and 19 inches deep, with a wooden vat outside, with a space of 1½ inches between the two. In this space cold water circulates during the night, to keep the milk brought from the afternoon milkings at a temperature of 50°. In this space also steam is introduced in the morning to heat the milk. The number of presses in this room is 16. There is also a sink on wheels to receive the curd from the vats and convey it to the presses. The whey runs off through pipes into a trough below the floor, and runs thence to the pig-pens at a distance from the factory. There are usually from 100 to 140 hogs kept; each farmer furnishing milk to the factory having the privilege of sending one hog for each five cows he milks.

The number of farmers furnishing milk is 38. The number of cows kept by them is about 700. In the month of June, 1864, 14,000 lbs. of milk were furnished daily, and fourteen cheeses, weighing about 1,420 pounds, was the daily product of the factory—8½ pounds of milk was the quantity required for making 1 pound of green cheese. In August, owing to the great drouth, only 9,000 pounds of milk was furnished, and eight cheeses of about 114 pounds each were daily made. The cans in which milk is brought contain 15 or 20 gallons. The wagons, as they arrive, are driven upon an inclined platform to the height of 9 or 10 feet above the floor of the vat room; the cans are emptied into large tin vessels standing upon platform scales; the milk is then weighed and run off through troughs into the vats. Each farmer is credited on the books, morning and evening, with the weight of milk brought. Occasional tests are made with the lactometer of the quality of the milk furnished by each person.

All the cheeses are turned and rubbed every day. They are greased only two or three times in the season. Each cheese is numbered and dated with red ink. The cheeses were sold in May at 22 cents per pound. The next sale was made in June at 24¼ cents, and 26 cents was offered in July for the quantity then on hand, but refused. At the time of my visit in September, 730 cheeses were on hand.

There are two men and two women employed. Mr. Lewis is the superintendent.

Boxes are made in the neighborhood, and cost 30 cents each. The cloth for bandages costs 28 cents, formerly bought for 5 cents.

A large wooden tank at one end of the vat room contains water heated by steam, for cleaning the vats and all vessels employed by the establishment. The utmost cleanliness is observed in every part of the building. The cheeses made at this establishment are of very superior quality, and command the highest market price. Most of them are sent to England, which country is our best customer for the superior cheeses which our well conducted factories are now turning out. G. B. H.

CATTLE BREEDING.

Breeding in-and-in—Importance of First Impregnation.

This subject has been so extensively discussed that it would seem that there could be no new thing under the sun said about it. Yet we have not reached the bottom of the well, and there is probably as much more to be developed concerning it as has already been vouchsafed to us.

Breeding in-and-in, in the popular meaning, is the connection between produce of the same parent or between parent and offspring, and to this system we owe the superior breeds of cattle and race-horses in England and in our own country. Yet it begins to be the opinion of the *savans* that this may be carried too far, and that in fact incest should be as criminal among animals as in the human race. Mr. N. H. Smith, who resided a long time among the Arabs, in his "Observations on Breeding for the Turf," published some years ago, gave it as his opinion that when the breed is continued incestuous for three or four crosses, the animal degenerates. Professor Agassiz, at a meeting of the Massachusetts Board of Agriculture in 1864, in a lecture on the breeding of cattle, said that those of the same kind or family should intermarry, but there should be no incestuous connection. "Do not," says he, "breed in-and-in those which have such close family ties that you would breed disease in them by the closeness of the blood." It was a usage among the Jews, and most of the oriental nations, for the brother of a married man dying without issue, to take his wife for the purpose of perpetuating the line and race; but in India, according to Sir William Jones, this law was enjoined on the two lower castes, but prohibited in the higher, being called in the Brahminical code, "*a practice fit only for cattle.*"

Another law of the Jews, declaring that if a widow having children marry again, the children of her second husband shall be heirs of the first, seems to be founded upon a right knowledge of the laws of reproduction, though as yet but little known, and if correct of fundamental importance to the breeders of cattle. *The impregnation of an ovum may take place a long time previous to its development, and it only requires a stimulus of future connections with the male to bring it into existence.* Professor Agassiz had experimented with a Newfoundland bitch by coupling her with a water-dog, and the progeny was mixed, and future connections of the same bitch with a greyhound produced a similar litter *with hardly a trace of the greyhound.* Similar experiments produced like results, and we learn the Professor has continued his investigations in this interesting branch of physiology for the benefit of the agriculturists. At the meeting of the Board of Agriculture, (1863,) when these views were enunciated, Mr. Chapin of Milford, stated that a hen turkey would lay two or three successive litters of eggs, having been impregnated only for the first.

"These laws," as Professor Agassiz well observes, "should govern us in our breeding of animals, and should make us careful in a selection of males for the FIRST impregnation of females, as upon this depends the future value of the female in producing the type which the breeder may design." The common opinion of our farmers that it is of no consequence as to the sire of the first calf, and the practice of turning young heifers among diverse cattle for summer pasturage, to be served by any bull, should be discarded if any regard is had to purity of stock, and to the value of the future progeny for special purposes. R. G.

Lenox, Mass.

FRESH TURNIP SEED BY MAIL.—The new Sweet German Turnip is incomparably the best for winter use and late keeping; seeds prepaid by mail to any part of the country. Priced lists of these and all other desirable Turnips, with directions, will be sent gratis to any address by return of mail. Sow from June 10th to July 20th.

B. M. WATSON,
May 25—w6tm3t. Old Colony Nurseries, Plymouth, Mass.

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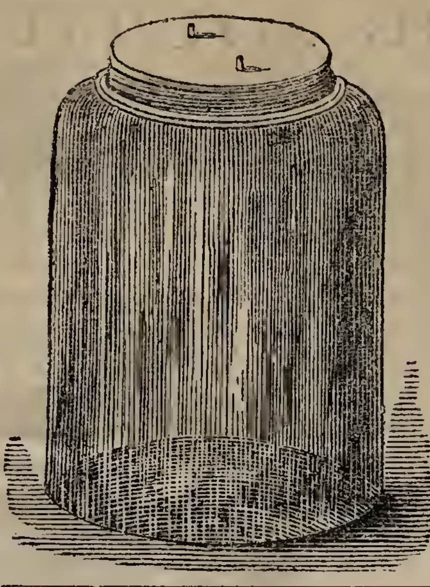

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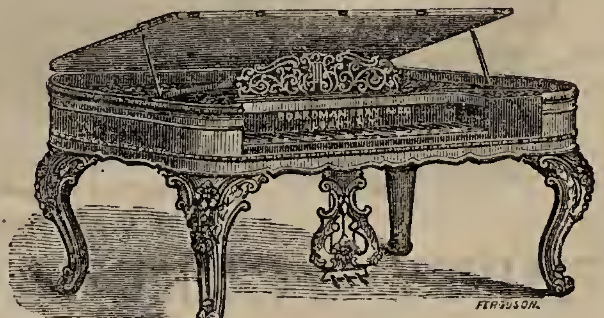

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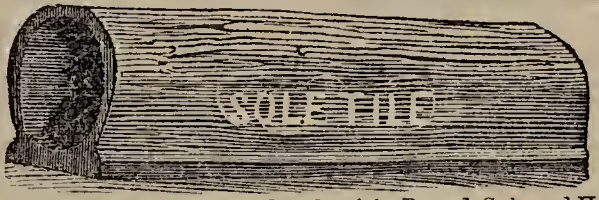

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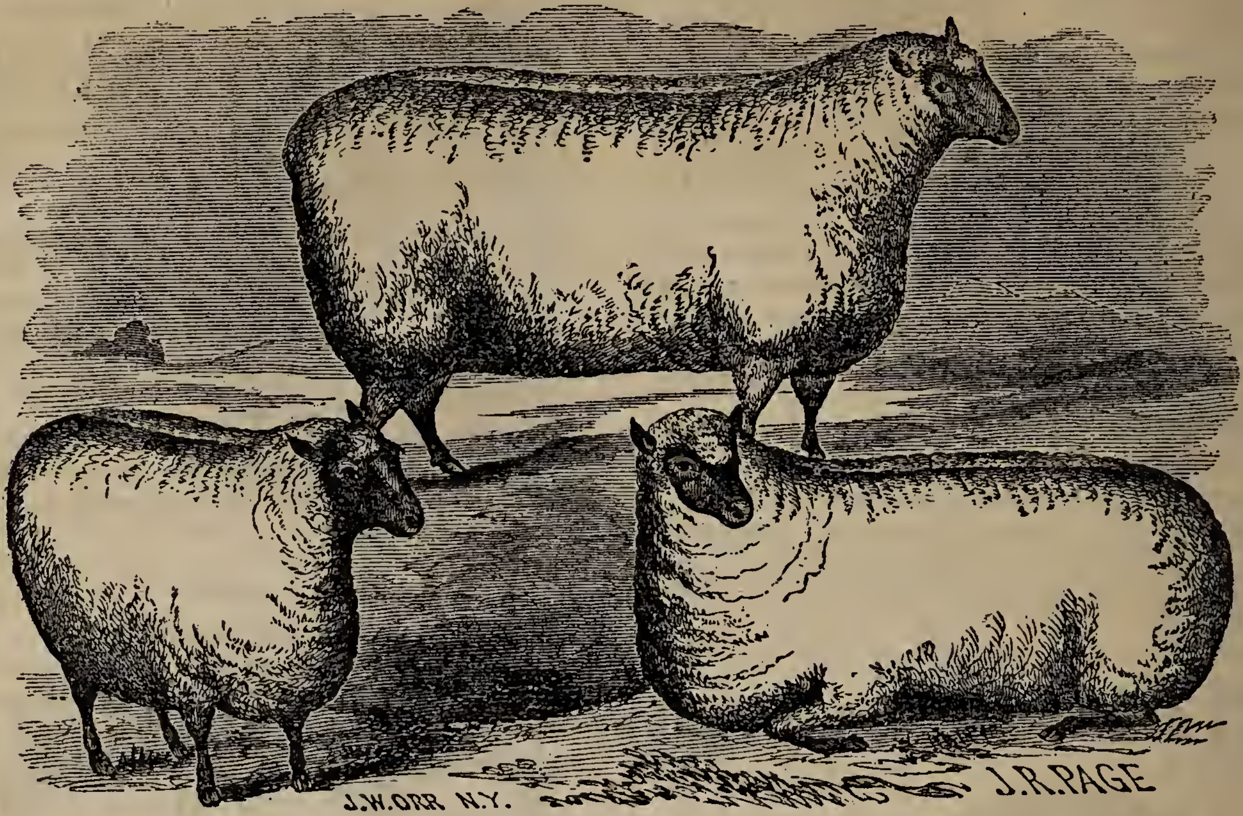

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THE CULTIVATOR.

THIRD] TO IMPROVE THE SOIL AND THE MIND. [SERIES.

VOL. XIII. ALBANY, N. Y., SEPTEMBER, 1865. No. 9.

PUBLISHED BY LUTHER TUCKER & SON,
EDITORS AND PROPRIETORS, 395 BROADWAY, ALBANY, N.Y.

TERMS—EIGHTY CENTS PER YEAR—Ten copies of THE CULTIVATOR and Ten of the ANNUAL REGISTER OF RURAL AFFAIRS, with one of each free to the Agent, Eight Dollars.

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The Cultivator & Country Gentleman.

FLAX COTTON.

Under the stimulus afforded by the scarcity to cotton, efforts to prepare Flax fibre for use on cotton machinery have been numerous, and conducted with great care and labor, during the past two or three years. In our own State there has been the additional encouragement to inventors, of a liberal appropriation now in the hands of the State Agricultural Society, for the reward of success if reached; and a still larger sum was placed by Congress under the control of a commission, by the act passed Feb. 25, 1863, in order that the subject might be thoroughly investigated, and the means of attaining the desired end, in a practicable way, attained if possible, and made known to the public.

From our exchanges we perceive that this Congressional commission have lately published a report embodying the results of their examination, both as to the history, culture and uses of flax and hemp in this and other countries, and as to the mechanical and chemical treatment of the fibres, in order to prepare them for the manufacturer. With a copy of this report *in extenso* we have not been favored, but the liberal extracts from its pages which have appeared, enable us to judge how great progress has thus far been made. We regret that no new light seems to have been gained, nor any brighter promise held out of accomplishing what was sought. That we are not alone in deriving this impression, will be seen from the following remarks in the course of an able and candid review in the Prairie Farmer:

"We can look upon the last, and previous to the careful reading of the report, hopeful clause of the introduction, that declares 'We have continued the research to a point where the most flattering results appear ready to open, and regret that the limit set upon the commission renders it necessary that the pursuit should be relinquished when the desired end is almost in view,' as a straw thrown to the flax cotton substitute men whose fortunes just now seem to be in a sinking condition. Though occasional expressions are dropped here and there throughout the report, giving some hope of success, yet there is no doubt that in the eyes of the commission the substitution of either flax or hemp or any other of the fibrous plants they examined, can never become profitable in those great general uses for which cotton has been found so admirably adapted in all respects. There is a structural difference between them that the manipulations of no machinery can overcome, that will forever preclude their taking the place of the southern staple."

Indeed, the report itself, although leaving its readers to gather the conclusion for themselves, admits that its statements as to the radical differences between the fibres of flax and cotton, are likely to lead the public to the opinion "that they can never really be substituted, because they are so dissimilar." Nevertheless the following recommendation is given, which would scarcely appear consistent with legitimate deductions from the facts under review:

"Under every aspect of the subject, we believe it will be safe to alter one or more fine cotton mills (that are now idle) to give this stock a trial if the same can be purchased at encouraging prices; at first mixed with thirty-three per cent. of cotton, and if successful, to gradually reduce the per centage of cotton until by continued success they may be enabled to withdraw entirely the admixture and thereby demonstrate to the country the practicability of spinning fine flax-cotton yarn on cotton machinery."

With regard to the admixture of flax in fabrics made mainly of wool, the remarks of the committee are somewhat less encouraging than might have been expected:

"As an admixture in fine woolen goods in the form of chemically disintegrated fibre, there are at present no satisfactory results. The failure to obtain such results in this direction is probably owing more to the want of a supply of good material and to the general unwillingness of manufacturers of fine woolens to mix even cotton with wool, than to any intrinsic want of adaptability of flax cotton for admixture. On the contrary, the peculiar affinity of flax for color, (it being equal to wool in this respect,) and its indisposition to excessive fulling, would seem to make it a much more desirable admixture for fine colored woolen goods than cotton. And it is not unreasonable to expect that when there is a sufficiency of supply of well disintegrated and separated refined flax-cotton, that it will be extensively sold for this purpose."

Yet the interest awakened in the subject has not been without some points of advaantage. With coarser woolen goods it has been found that flax may be advantageously substituted for the former admixture of cotton. The report adds:

"As cordage and for twines, to which, in the cheaper days of cotton, that substance was extensively applied, hemp and flax still assume their pre-eminence and superiority. Even to the grocer's twine, which must be short and easily broken, these fibres have been extensively and profitably applied. Every variety of twine is now made of flax and tow in several establishments. Thread of the best quality for many purposes is also prepared from this material, and for some branches of the arts it has always been deemed superior to cotton. Coarse linen fabrics of every description, from bagging down through burlaps, crash, duck, diaper, &c., have all been successfully made of flax and hemp, where formerly the greater cheapness of cotton had caused that fibre to supplant its legitimate competitor. In the article of seamless grain bags, which were formerly made altogether from cotton, we now have a much better article produced from flax."

Peas as a Green Manuring Crop---No Crop Need be Missed in Growing them.

Eds. Co. Gent.—Some years ago you published an account—written by a travelling English farmer, if my memory is correct—showing how, by the growth of spurry, and particularly of the yellow Lupine, large tracts of light soil—in Prussian Silesia, I think—had been brought from a condition of comparative sterility to a state of comparative fertility, by plowing crops of these plants in as a green manure. I have not time to quote, but, according to my recollection, these sandy tracts were so low in fertilizing properties that wheat was not, and could not, be grown upon them; nay, only the most meagre crops of rye could be produced on portions of these districts, and other portions would not bear a crop of either wheat or rye. This is the substance of the facts as I remember them. I recur to this precedent example to insist on the principle that what has been done so satisfactorily with indifferent facilities, can be more effectually done when and where the facilities aro better or more accessible.

In the United States we have a great variety of soils, and every necessary facility for interchanging their most suitable productions as may be found desirable or profitable. Our bottom and prairie soils are par excellence corn lands; the rugged hills are sheep and cattle soils; the light soils of pine wood districts will bear good crops of rye and beans, and fair corn; our stony loams and clay ridges are well adapted to growing wheat, and a good wheat soil is always adapted to producing fair or good crops of peas, as in Upper Canada, for example, wheat and peas are so generally cultivated that peas—that have not derivatively, and never had, any relation whatever with that country—are nevertheless called Canada peas, simply because peas are so successfully and abundantly grown in Canada. Why, I ask, having as good soils and climate, and a far better market, do we not grow more peas?

The pea, as is well known, is very nutritive, and also quite hardy. But it does not appear to have attracted much attention, as a renovating or green manure crop. The lupine may be good, and does well where, as in parts of Europe, it is raised easily from being already acclimated. Clover is the old-fashioned green manure crop—buckwheat being seldom heard much of for this purpose now—and it is none the worse for being old-fashioned, for "man and nature" are both somewhat antiquated realities. But it appears to my view that peas have as good a pedigree for antiquity as can be required in a well descended farm product; that its properties and character are well fixed, and inhere through successive crops, and that, in fact, though too many of us seem to think —

> "That novelties are butterflies,
> To be pursued as food for inanition."

The pea is just what we want *to use* to put our poor soils in a better condition as to fertility.

A fair per centage of clay is necessary to raising peas with good success. And we have an abundance of strong soils with the necessary leaven of clay interspersed among lighter soils, throughout nearly or quite all the middle and northern States. There is every requisite facility for raising seed peas in abundance; therefore what is wanted is a large demand for them. To do a little by way of showing their value for purposes additional to those for which they are generally used, may lead to some increase in their demand and production—at least I have for years believed this ought to be the case.

Let us now see their adaptability as a green manure crop. Pre supposing a supply of seed can be obtained, as always can be done by clubbing and sending to Canada for them till they can be obtained nearer—how and when shall they be planted? I will give my plan, subject to the amended, of course, of growing them for the purpose of plowing them under:- Let the ground intended for the crop be plowed in the fall and left rough, or without harrowing. Where there is a wheat drill that can be set quite narrow, drill in at *least four* bushels to the acre, as early as the drill can be used in the spring, first harrowing the ground to fit it for the drill. A light one-horse harrow should now be passed over the drilled ground. If the ground is settled, so much that there is not mould enough to let the drill in, raise mould with a gang plow or cultivator-toothed drag. Then drill *east* and *west*, so as to have the peas shade the ground as early as possible, and harrow with quite a light short-tooth harrow. Where no drill can be had, take a one-horse plow, and after getting mould enough fitted in readiness, plow straight and *very narrow* furrows east and west, *leaning* the plow well to the landside, and setting the furrow mould up in narrow ridges, with as narrow furrows as can be made. When the ground is all furrowed, sow on four bushels of hardy or common field peas to an acre, and harrow *crossways* of the furrow, pulling the mould down over the peas. For this purpose the harrow teeth require to be many of them, and pretty near together. They may be short without disadvantage. A very simple method of shortening the teeth in effect for such a purpose—the harrow needing to be weighted a little on top—is to wind long, slender pieces of brush among the teeth and tie up to the frame with strong twine. Long teeth will pull up some of the peas; hence we want a harrow that will scrape the mould over them, so to speak.

Suppose I have a field that gives but a poor yield of wheat, and I want to bring it up in short meter. Plow it in the fall, as before stated; plant *four bushels* —and not less—of peas per acre, early and well, on it.

This done, we shall have a good heavy crop of haulm by the 20th of May, ready to plow under, which done, we can at once plant to corn, not missing a crop.

As to the properties of the pea haulm, there can be no reasonable doubt but they are substantially the same in character as those of the clover, and that the effect on the soil will be of the same beneficial character. The crop of peas will be quite as bulky as a crop of clover, perhaps more so, but say of equal weight with clover. But the peas being plowed under so much *earlier* than a crop of clover can be, will rot at once, and the growing corn will be forced along by the fermentation of the decaying crop going on in the ground. In this respect the earliness of the pea gives it great value over beans or lupines, or clover, and the growing of the pea crop does not prevent the ground being worked—among the corn—which working is so necessary to promote chemical solution among the properties of the soil, to prepare for another crop of wheat.

Again, it is well known that the pea haulm, in common with clover, contains a full proportion of nitrogenous matter, just such as in a decomposed state the wheat plant appropriates and flourishes with. And it being evident from their quantity of succulent juices, and the early part of the season at which the pea haulm commences decaying, that all of it will be decomposed before spring, when the principal need of the wheat crop for manurial substance will arise. I even believe that the whole mass plowed under will be rotted by the 1st of October. Is not the pea well worth trying, apparently the very best crop for green manuring, then connecting and duly estimating the the considerations already stated?

As to the cost, it is merely a trifle in comparison with manuring either with clover or common or commercial manures. At present I have no need of heavy manuring; but my mind has long been made up to resort to this method whenever plowed ground requires manure and I do not wish to go into rotation and clover farming.

Green Lake Co., Wis. J. W. CLARKE.

Peas as an Intermediate Manuring Crop.--No. 2.

In previous remarks on the value of the Pea, as a crop which appears to be better adapted to the purposes of green manuring than any other, it was stated that the crop might be ready to plow down by about the 20th of May. Perhaps I was somewhat hasty or unguarded in making that statement, without at the same time stating necessary limitations. For although in some seasons, as the present spring for instance, this might be applicable in the northwest, in other years the crop would be later by one to two weeks. As it frequently happens, however, that after a late cool spring we have warm forcing summer weather, it will do to plant early corn in the Middle and Western States even as late as the 1st of June on rich ground. But limit the statement, that corn can be grown upon ground where a large crop of pea haulm has been turned under, to the best corn regions of the country, and we have still an alternative crop that gives opportunities to cultivate or work the soil during the growth of the crop; and this course is, according to my views, better than naked fallowing, whether as to the facilities afforded for killing weeds, or as to the probabilities of good crop of wheat succeeding; the alternative crop being beans, a crop which supplies some of the very best elements of feed, especially in the form of meal for dairy cows in winter, &c., as demonstrated both in this country and in England by experiment, and which—that is, bean meal—must be one of the best kinds of feed for store sheep and lambs that can be found from the nature of the case. I must recur, however, directly to peas for green manure.

When a crop of pea haulm is plowed under in time for corn to succeed, the soil will usually be well worked, the working of itself generally ensuring a fair or full crop of wheat succeeding the corn. It must be the working that is the chief cause of wheat succeeding so well—which is according to general experience —after corn; for the crop of corn—unlike clover or peas, or beans,—takes more nutriment from the soil than it returns, or draws, or in any way insures thereto. It is the working of the soil amongst the corn that supplies, or affords facilities for supplying, more fertilizing matters than the large quantity known to be taken from the soil in a full crop of corn removes. I wish to enlarge a little further upon this view, because in my advocacy of peas for manure I am venturing to a certain extent on new ground.

Boussingault says, (Rural Economy, p. 346,) "There are certain plants which cannot be reproduced upon the same soil advantageously, except at intervals more or less remote. The cause of this exigence on the part of *certain* vegetables is still obscure." I think it probable that Boussingault had what is called the "clover sickness" of Europe in his mind when he wrote the above passage. At any rate, it is certain that in precluding cultivation, the growing of clover prevents latent and native properties of the soil being developed, and interrupts that rapid rate of chemical change which attends cultivation. Admitting that clover itself does not need the fertility arising from working, it is unquestionable that the succeeding crop of wheat or corn does require it. Hence according to this view, the clover course is merely a pastoral alternative of negative rather than direct value in developing latent fertility.

Here let me give my own explanation of the seeming difficulty above alluded to by Boussingault. Clover, or any other crop which *precludes working* the soil while the crop is growing, cannot be often repeated on certain soils, because the presence of such crops for too large a proportion of time prevents the native elements of the ground being developed; such development or renewed fertility being due to increased aeration and chemical change, which is so much facilitated by working or cultivation, and must needs bear a relative proportion to active cultivation itself. Though clover draws less mineral matter from the soil than the cereal crops, it may nevertheless preclude the development in an available state of even enough of such matters for its own full development, by precluding active cultivation for so long a period during a rotation. This is at once my explanation of the seeming enigma referred to by Boussingault, and an apparent objection to the cultivation of clover on soils that contain much fertilizing matter in a latent, inactive, or unavailable condition

It also appears to me that summer fallowing, though affording excellent opportunities for *killing* weeds, such as witch grass, thistles, &c., and for which alone a fallow is necessary, is objectionable in not affording the best facilities for promoting and hastening chemical action in the soil itself. I have never seen this objection advanced; albeit it does appear that naked fallowing retards chemical action, and precludes that more rapid development of latent matters of the soil into an active available state, which takes place in the ground when the crop growing upon it is actually worked or cultivated. The reason of the difference is this: A certain and sufficient degree of *humidity* is necessary near the surface and just within it, to absorb and retain a sufficiency of heat to effect chemical changes in the mould, or among its particles, and rows of corn or beans shelter the spaces between them, maintaining a degree of comparative stillness in the local air there, and preventing the moisture being evaporated and dissipated with anything like the degree of rapidity with which the air near the ground is dried on a naked fallow field. Moreover, the shade of the rows prolongs the presence of the necessary moisture by retarding direct evaporation. Rapid drying away of that degree of moisture necessary to rapid chemical action and change of latent matter, is thus prevented by the presence of the growing crop, while the working of the ground among the plants causes a rapid interfusion of moist air, and so leads to far more active and rapid changes of latent and inert to active and fertilizing or available elements in the substance of the soil, than can be reasonably anticipated or possibly take place in a similar soil worked as a bare fallow, nor is a bare fallow so favorable for starting the growth of weeds.

It is generally understood that wheat succeeds admirably after corn, and when the fact, before alluded to, that corn takes more than it gives, is considered, the success of the wheat following it can be explained in no other way that I am aware of, except the foregoing—that working develops the latent properties of native matters of the ground. And this explanation being consistent with general experience, is it not sufficient? But wheat succeeds even better after beans than after corn, according to my experience, even if the corn ground receives fair manuring. And this can be accounted for only by admitting that, supposing the benefits of cultivation as between corn and beans to be equal, the matter drawn from the atmosphere by beans is more than that left in the ground from the manuring after the corn has done appropriating manure, and as corn draws largely both on the soil and manure, I believe most soils will be better prepared to sustain and produce a full crop of wheat, by from 15 to 30 per cent., after a well *cultivated* crop of beans than after similarly cultivated crops of corn.

On soils that are thin and lean then, but where rapid and large production is an object of importance, and the ground can be plowed in the fall, and a good growth of peas has been turned under, viz., from the 20th of May to the 15th of June, according to latitude and other causes influencing the earliness of the season, in a given locality. And beans, of the two, will leave the ground in better condition for wheat, because they draw more upon atmospheric matters for their growth, while in far northern latitudes the bean will be better adapted to the climate or length of season. Furthermore, a bean crop will leave nearly the whole of the manure resulting from the decomposition of the pea haulm, unappropriated in the ground, ready to sustain a growth of winter wheat in the fall, where winter wheat can be raised, or spring wheat, if in an open country, &c., as the case may be. There are doubtless many fields of wheat that will be light, and not remunerative, because the ground is too poor, or has been insufficiently worked. In either case, or, as is probable, if both defects operate in combination, is not the remedy I have pointed out a plausible one at least? My experience as to beans has convinced at least one farmer of its being a sure remedy, otherwise a certain mode of raising full and even large crops of wheat; and taken together I have full confidence in it, and feel assured that any reasonable expectations based upon the principles and practice suggested will not be disappointed in resulting experience. J. W. Clarke. *Green Lake Co., Wis.*

Recipes for Cooking Green Corn.

A Corn Grater.

In Nantucket and New Bedford, where green corn puddings, soup and cakes, originated, a *corn grater* is always used, as pounding corn in a mortar always imbibes the taste of spice, unless a marble mortar is kept expressly for the purpose. Mr. N. Waterman, at No. 5 Essex-st., Boston, makes them from the Nantucket pattern.

Corn Pancakes.

Boil eight or ten ears of corn—pass a sharp knife down each row, and with the back of the knife or a spoon scrape off all the corn, but be particular to leave the hull on the cob. One gill new milk, two teaspoonfuls salt, two eggs well beaten, and as much flour as will make a batter as thick as griddle-cakes. Then add the corn. Have the lard boiling hot, and drop a tablespoonful at a time in it. When brown, serve hot for dinner.

Corn-batter Cakes.

Grate eight or ten ears of corn—use a spoon to get the gist of the corn from the cob—be careful never to scrape it so hard as to get off the hull. Make a batter of 1 quart milk, 4 eggs, and flour enough to make it as stiff as usual griddle cakes; one small teaspoonful soda, one and a half cream of tartar, a teaspoonful salt; mix all well together. Have the griddle hot and buttered; drop a tablespoonful of the mixture, and when brown on one side, turn them to brown the other. Serve with butter.

Corn Soup.

Boil twelve ears of corn—which should be young and tender—in four quarts water. Take the liquor in which they are boiled, and put in a knuckle of veal or piece of "soup beef." If no grater is to be had, use a sharp knife to cut down each row of corn. Then with a spoon scrape off all the corn, leaving the hulls on the cobs. Put the cobs back into the liquor to boil with the meat three or four hours. Strain all through a sieve, set it aside to cool, and skim off the fat. Mix four tablespoonfuls flour with a quarter of a pound of butter. Put the liquor into the pot, add the flour and butter and corn. Season with pepper and salt. Boil half an hour, and serve. If a stock is on hand use it, in proportion to its strength, with the clear water. This should make two and a half quarts soup. The knuckle of veal or beef can be again boiled for second stock.

"An Old Housekeeper."

Never give to all nor contend with fools.

FATTENING ANIMALS IN A HURRY.

We have pointed out in former years the futility of attempts to lay heavy masses of flesh on poor cattle by stuffing them with rich food. Such attempts not only prove to be failures, but are always wasteful. The material consumed is nearly lost, the animals remain comparatively poor, and the owners are convinced that fattening animals for market "don't pay."

It is perhaps well for the cause of good management that all neglected treatment of animals should result in loss to the owner. If he has starved his cattle, sheep and pigs for a year or more, he cannot atone for it by sudden attempts to push them to fatness. On the contrary the only true way is to see that growth continues without cessation, summer and winter, from the earliest period of their existence till they are finally sold in market. A single check given to this continued progress may arrest or retard it for months. Our own observations lead us to the opinion that the whole profits resulting from raising and fattening, when this continued progress is kept up by careful, regular but not extravagant feeding, are at least triple the amount realized from early neglect and heavy feeding afterwards—and often the difference is many times greater than here stated.

There is nothing that should be more strongly impressed on the mind of the young farmer who makes the feeding of animals a prominent part of his business, than the importance of keeping up an unremitting growth throughout the whole course of their existence. The most successful pork-raiser with whom we are acquainted, adheres strictly to this course; not only feeding his store pigs well and regularly through fall and winter, but commencing the fattening not merely in autumn, as is too commonly the case, but *early in the spring.*

It is objected that this management is too expensive. This objection is urged by those who find two or three months only to consume more than they can afford. They feed heavily for a short time, but do not receive a corresponding return of increased flesh. "If two months feeding," they inquire, "costs us so much money, how can we ever afford to continue it for two or three years?" It is very true they cannot, because the whole system which they adopt is a profitless one. Fortunately it does not require heavy feeding to keep up the continued growing condition of animals. Here is a great error into which many have fallen, which we have endeavored to correct. John Johnston made the remark some years ago that the copious feeding of grain or meal to cattle is no better than a moderate amount. We gave the statement some years ago of experiments performed by G. H. Chase of Cayuga county, who carefully weighed every week all his fattening animals. A daily supply of four quarts of barley meal to a fine steer, gave a weekly increase in weight averaging 18 pounds. A neighbor advised him to *push* him, and eight quarts were accordingly fed daily. The weekly increase of flesh was less than when he received four quarts. The amount being increased to twelve quarts per day, he gained nothing at all. Several similar instances have come to our knowledge, and among others a fine animal was recently fed by a neighbor a peck or more of rich meal per day. After thus urging on the fattening process as he supposed, for several weeks, he was finally sold and proved to be only a few pounds heavier than when purchased. The many bushels of feed which he had consumed and the labor of attendance given him, literally went for nothing.

Successful feeders, who prove all their experiments by weighing, have long since ascertained that animals in fine condition will lay on more flesh for the amount of food eaten than those of inferior character. Hence shrewd men will not purchase lean and raw-boned animals for fattening. This fact serves to establish the truth that all animals at all stages of growth should be kept fleshy. It may be scarcely necessary to remind any intelligent manager that the difference between attending to all the comforts of an animal by cleanliness, good wholesome food given regularly and in moderate quantity, and neglecting all these particulars, is simply the difference between those in fine healthy condition and such as are feeble and raw-boned. It may be laid down as true, with scarcely an exception, that the farmer who carries on the business of fattening at a loss, is one who neglects at one time and over-feeds at another.

COOLING WATER.

Eds. Co. Gent.—In your paper of June 8th there is a paragraph headed "Cool Water," copied from the Maine Farmer. The substance of this article appears periodically, and I have no doubt causes a great many unscientific people to waste their time in trying the experiment suggested; which can only end in disappointment, and an increased disgust for "book learning."

It is a fact not to be disputed, that evaporation will cool the body from which it takes place, but it is also a fact that this cooling only amounts to a slight change of temperature, that is, 5° or 10°, sometimes as much as 15°.

As I write I have a hygrodeik before me, which indicates that the temperature of the air is 82°, and that the temperature due to evaporation is 70°; or in other words, under the most perfect arrangement for cooling by evaporation, I should be able to keep water at a temperature of 70°, or 12° below that of the atmosphere. Allowing for imperfections that would attend any arrangements for cooling a quantity of water sufficient for drinking purposes, we ought not to expect to effect a lowering of temperature of more than five or six degrees, an amount scarcely appreciable and certainly without practical value.

The rapidity with which evaporation takes place, and consequently the amount of heat lost, depends directly upon the condition of the air in regard to moisture. In very dry air evaporation takes place very rapidly; in air already saturated with vapor, no evaporation can take place. In other words, evaporation takes place with more or less rapidity in proportion as the air is more or less dry.

And as the temperature due to evaporation depends upon the rapidity with which evaporation takes place, we may say that the amount that water may be cooled by this process depends upon the state of the air in regard to moisture. That is, in dry air from 5° to 8°—in moist air not at all. William Edson.

Boston, Aug. 6, 1865.

THE SUPPLY OF FRUIT.

In a season like the present, when the apple and pear crop are so much smaller than they have been for so many years past, fruit raisers naturally ask the question, what shall we do for our usual supply of fruit for family use ! The answer may be a difficult or unsatisfactory one, so far as the present season is concerned, but we may all learn something in relation to insuring a supply in future. Those who confine themselves to a single kind will be liable to an over supply in one season and a deficiency in another. If the land owner, for example, plants an apple orchard only for early, medium and late sorts, he will have all that he wants, and an overplus besides when the year proves favorable ; but he will be annoyed by such a deficiency as the present in unfavorable years. The true way to avoid this difficulty is to provide as many legs to one's stool as possible—or, in other words, to secure as great a variety of kinds as may be practicable. We do not mean by this a very large number of varieties of each kind. Thus in one year apples may be abundant, but peaches and grapes may be entirely deficient. During another season the reverse may take place, and it is therefore desirable to plant all the kinds that are easily cultivated. Taking the circle of fruits and beginning with strawberries and the earliest cherries, to be successively followed by currents, raspberries, the earliest pears and apples, apricots, early plums, blackberries, and subsequently by the general supply of apples, peaches, pears, plums and grapes, terminating in the following winter and spring, with winter pears, packed grapes and winter apples, we shall find on an average a certain percentage or rate of failure in different kinds—in some localities there will not be one failure in ten among these different fruits ; while in others the deficiency may be as one to five, or one to three, as the case may be. All we have to do therefore is to enlarge our number so as to insure a certainty of a supply from one or more. The present year, for example, has furnished us a profusion of strawberries, a good supply of currants where the hellebore treatment has been promptly given to the currant worm ; raspberries and blackberries are bearing well, and so far as present appearances indicate, we shall have good crops from most varieties of the hardy grape. There must be an increased reliance on the grape, for although it may fail in some seasons, the cause of that failure is unlike that which destroys the crop on most of our fruit trees. The latter is often the result of severe winters, and very frequently it is caused by abundant rains about the time of blooming. But the grape is never winter winter-killed in the fruit-buds, nor by the rains of spring, because the fruit is formed on the new shoots, which grow at a later time of the year.

Of all the kinds growing on *trees*, the pear is perhaps the most reliable for all seasons ; in the present, however, we have the rare exception of a very small crop. The best hardy grapes scarcely ever fail ; we should therefore plant them more extensively for family use. New sorts for excellence in quality have been added to our list within a few years ; attention is more recently given to the production of varieties of extreme earliness ; while those for long keeping through winter are not overlooked, and will yet receive more attention than now, when families come to rely upon the grape for a general winter supply. We strongly recommend a larger planting of the vine, not so much for making money by marketing on an extensive scale, as for an abundant home consumption.

Let us compare the grape with the apple, for the amount which may be obtained from a given area of land. The most productive apples, such for example as the Baldwin and Rhode Island Greening, have yielded in good seasons at the rate of some 400 bushels to the acre, while 100 or 200 are a more common crop. Taking 15 or 20 of the best or most popular sorts, we shall probably not be able to rely on much over 100 bushels to the acre, through the vicissitudes of different seasons—or not over three or four tons. Now, in ordinary vineyard management, four tons do not constitute an extravagant crop for such excellent sorts as the Isabella, Concord and Delaware. Some of these have yielded over six tons per acre. It may be questioned whether, on the whole, the apple orchard will yield much more than the vineyard ; the latter, it is admitted, requires far more care in cultivation and pruning, and more attention also in preserving the fruit. But we are all learning that fruit should have as much care as corn, turnips and potatoes, and are becoming willing to give it.

While therefore we would not diminish the amount of land given to strawberries, currants, raspberries, gooseberries, blackberries, and to cherries, apples, peaches, apricots, plums, pears, &c., we especially recommend at the present time, a larger attention to the best hardy grapes.

ORCHARD CATERPILLAR.

The vast numbers of these caterpillars in many parts of the country admonish orchardists to destroy them before they make such progress again as they have the present year. Some apple trees have been entirely stripped of leaves—not only rendering a crop impossible, but checking the growth of the tree at the most important period of the year, and rendering it liable to injury by winter, and retarding its vigor in future. It is not too soon now to commence the destruction of the eggs, which have been recently placed upon the young twigs. As they are usually on the projecting shoots, near the outside of the tree, the practiced eye will quickly detect their presence, and a single clip of a pair of orchard shears, placed on the end of a pole, and worked with a cord, will bring them to the ground. This is much easier than the more laborious and more uncertain process of brushing, swabbing, winding, thrashing, pounding and crushing, after the caterpillars are half or wholly grown, for no individual escapes when the little ring of eggs is taken off entire. In the autumn, after the leaves have fallen, pass around again and clip out the remainder. By going through the orchard at least two or three times, there is less chance for any accidentally hidden rings to escape. A cloudy day should be selected, so that the light may not dazzle or injure the eye ; and after some practice, it is surprising with what quickness any one may detect these rings on the twigs, by a glance over the apple tree. Cherry, pear and other trees should be examined in the same way.

A careful attention to these instructions any time before the coming spring will completely clear orchards of this pest, and the owner will have the satisfaction as he passes the trees, of seeing them full of healthy foliage, without the annoyance of witnessing these huge nests on denuded branches.

PLANT LICE---The Hop Aphis.

Messrs. Tucker—I think I must have inadvertently left the letter of your correspondent containing some inquiries respecting the Hop Aphis, at your office, as I do not, on reaching home, meet with it among the other slips and papers which you handed me. So near as I recollect the principal query of the letter related to the state of this insect in autumn and where it lurks through the winter.

Most of the species of this family of insects—the Plant Lice—after bringing forth living young all through the summer, become oviparous at the close of their career in autumn, depositing their eggs loosely under scales of the bark, or in any other sheltered situation presented by the different kinds of vegetation they respectively infest; which eggs, surviving the winter, start the species into active life again the following spring. But as the hop vines are all pulled down and destroyed when the crop from them is gathered, the question very naturally arises what becomes of this insect from that time till the vines start up again the next year? A corresponding case was presented by the grain aphis, when it suddenly appeared in such myriads in our grain fields in 1861. As the grain is all ripe and harvested in August, why would not this insect upon it then perish of starvation before any fall sowed rye or wheat would be sprouted from the ground, some two months after, for it to resort to? And on particular investigation I discovered that after the grain was ripe the grain aphis took up its abode upon the grass, on the juices of which it was sustained until the young rye had started up, when it forsook the grass and went back to the grain. Something analogous to this we know must occur with the hop aphis. It must temporarily resort to some other vegetation, on which to maintain itself when there are no green and growing hops for its accommodation.

So long as this hop aphis has been known in Europe we should expect this important point in its history would have been fully ascertained and distinctly mentioned in our foreign accounts of this insect. Yet such is not the fact. Only in the admirable article on the the Hop and its Culture, by Mr. J. M. Paine, in Morton's Cyclopedia of Agriculture, vol. ii, p. 55, have I met with anything explicit upon this subject. It is there stated as follows: "Dr. Plomley of Maidstone, in his excellent lecture on blights, informs us as the result of his personal observation, that the hop fly, in May, proceeds originally from *sloe bushes*. He also positively asserts that the autumn generation, as we have supposed, is oviparous, and that the flies deposit their eggs in sloe bushes, whence their progeny emerge into the hop grounds in the following season." It is scarcely necessary for me to remark that the sloe is a European species of wild plum, from which many intelligent observers suppose our common garden plum has been produced by cultivation.

This statement of. Dr. Plomley is corroborated by the fact that, on another species of wild plum, to wit, the *Prunus Mahaleb* of botanists, M. Fonscolomb met with a species of aphis different from the *Aphis Pruni*, the common aphis belonging to the plum, and which he accordingly described as a new species, naming it *Aphis Pruni-Mahaleb*. But subsequent researches show that the insect which he thus described is identical with the hop aphis.

This is all the information I have been able to find upon this subject. From it I come to the opinion that when the hops ripen and their leaves become dry and juiceless, all the small and wingless lice upon them perish, whilst those that have wings fly away to the nearest plum trees, on the leaves of which they sustain themselves, until they have deposited a crop of eggs, placing these probably in the crevices of the bark, where they remain through the winter and hatch with the warmth of the following spring.

East Greenwich, N. Y., July 22, 1865. ASA FITCH.

Strawberries at St. Joseph, Michigan.

We have had a good supply of rain so far this season. Strawberries produce well. The average yield per acre was about 70 bushels, for which the growers received $5 per bushel *nett*, that is, after deducting freight to Chicago, commission for selling, &c., making the snug little profit of $350 per acre. Some of the growers fell short and some went above the estimate I have given. One grower netted only $700 from five acres. Another cleared $500 from one acre. Another received $260 clear profit from one quarter of an acre of Wilson, thoroughly cultivated and runners kept off. Triomphe de Gand is grown to some extent, but the Wilson pays better at $5 per bushel, than any other well tested sort at $10. The Agriculturist, Russell and Tribune strawberries, are being cultivated somewhat, but not yet fruited much. The shipments of strawberries from this port to Chicago this season, amounted to 2,000 bushels, and the business seems to be just in its infancy. The steamers leave here daily at 8 to 9 o'clock, P. M., and before daylight the next morning our fruit is in Chicago, fresh and nice; no damage from jarring or jolting, as on the railroads.

Next season I intend to plant on thoroughly prepared ground, an acre or more of Strawberries, in squares or rows both ways, two feet apart each way. This will be 10,890 plants per acre. I shall be particular to get vigorous, strong young plants, and shall cut runners once a week if necessary. I shall keep grass and weeds thoroughly subdued by the use of a hand cultivator with a wheel, pushing it before me, passing through the rows both ways. If the soil is *thoroughly* and *deeply* stirred before planting, the use of a wheel hoe or hand cultivator with a thin, sharp blade, will be sufficient. On smooth ground, free from clods and lumps, one man with a wheel hoe properly made, can do as much work as four men with ordinary hoes. A. Babcock.

St. Joseph, Michigan, July 17, 1865.

A Minute Pudding.

One quart new milk—boil, salt, stir in one cup of flour; boil and stir in two eggs well beaten. Serve with a good sauce, and eat with a *good* relish. T. R. S.

ABOUT GRAPES AND WINE.

The wild grape in all its multitudinous varieties is very abundant all over Hartford county. Great quantities of syrup—made one quart must, two quarts water, with sugar enough to make up the gallon, are manufactured annually from this source alone. This syrup is sold for one and two dollars per gallon. Our people like it because it is sweet. We consume more saccharine matter than any other people; hence the preference for sweet wine. But a good wine has been made from the Fox grape without sugar. Last season I ground these grapes—they were the best varieties of Fox grapes cultivated. Let the pomace be in the vats about two days, then pressed off into clean casks, and fermented so as to exclude the outer air. The object in allowing the pomace to lie and ferment so long before pressing, is to secure rich color from the skin and thin down the thick clammy nature of the Fox grape, so as to extract the whole virtue of the fruit. I have sometimes ground the grapes into large casks and let it stand for several years, and produced good wine in that way.

But the before-mentioned method is the best of my experience. The wine—not yet a year old—resembles the German wine so much used by that people in both countries. Good judges pronounce it a superior article. I shall bottle it when a year old, after putting in a gallon of brandy to twenty of the wine, giving one tablespoonful of loaf sugar to each bottle. This will produce a slight fermentation, which will give briskness to the liquor when drawn. Such wine as that will prove a wholesome beverage, and where grapes are so plenty as here, can be produced for one dollar per gallon.

The Fox grape is hardy, and every way adapted to the soil and climate. I never have seen mildew nor rot in any of its varieties. Self-planted and self-nourished, it flourishes equally well in swamps and along the banks of meadow streams. Whether extending over ricks and wall-fences, or mounting the lofty maple, it yields its annual crop when the apple proves a complete failure. Most of the fruit is too rough for good eating, but I have eaten some varieties, and several good judges speak of them, that compared well with the Isabella. It is these best specimens that I have transplanted to the garden. We have them ready for table by middle of August, fully two weeks before Hartford Prolific.

But the Fox grape never will compare with the new varieties now introduced and cultivated, either for the table or for wine. We can say of it, however, that it is sure when all others fail. My vineyard has been visited this year with mildew and rot. More than half the Prolifics have rotted, and mildew is upon the bunches that remain, whether trained to stake or trellis. Shouldered clusters of Concords are pinched with the same curse. Isabellas are affected only to a slight extent. Rebeccas have some mildew and a little rot. Norton's Seedling, Catawba, Diana, Northern Muscadine, and Delaware, are sound and good so far, but it is not too late for the blight to fall upon them. The Clinton, like the Delaware, proves always hardy. It is one of our best grapes for wine, and is the best for winter use, keeping till spring.

Are other vineyards afflicted in such a manner as mine? My soil is heavy loam, and deep; some of it sets on a subsoil of gravel and sand. I manure with muck compost, and cultivate all sorts of vegetables. The ground is set to pear trees,—standards and dwarfs alternating,—with vines between the trees in the rows. The fruit trees are all healthy, and cannot be surpassed for thrift or beauty. If the ground is not too rich for the pear, then the grape ought not to fail. Good corn land is right for the vine or orchard. I am sure it is not the manure that causes the rot. The trouble must be in the season. When fruit trees were passing from bloom, we had several weeks of northeast wind and storm, with very little sunshine; everything seemed to push forward with unprecedented rapidity. When the storm cleared away, and the sun shone out, the leaves began to wither and fall from the trees. Apples which had a very full set were mostly destroyed; so of peaches and pears. It was this succulent development of wood that weakened and deranged the vine, producing at this time the rot in fruit.

My grapes under glass have not as yet shown any mildew. I watch for its first appearance to sprinkle the vines with sulphur. To diffuse the flour over all the vines, I use a tin syringe, about eighteen inches long and two in diameter, one end perforated with small holes, the sulphur poured in, and ejected by a wooden follower. It is the best thing for the purpose; it is equally good for lice on cabbages, or bugs on vines. I should have used it on the outdoor vines had I anticipated any such trouble there. Will not other cultivators give us their experience with the vine? A. L. L. *Granby, Ct., July* 22, 1865.

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Who shall Address our Agricultural Fairs?

It has long been the custom at the annual gatherings of Agricultural and other societies, to have an address delivered touching the object of the society or association. All the different societies for the advancement of knowledge, literature, mechanic arts, science, history, law, medicine, and divinity, select some one to give an address at their annual meeting, pertinent to the object of the society, on some subject of practical importance to its auditors. This is very befitting, and generally develops something new or useful on whatever subject they may treat. All of these organizations generally select one of their profession to deliver the annual address. This is as it should be, for one of their own profession is better qualified to interest them, than one of another profession or calling. He knows the history and objects of the socity better than one whose thoughts have been trained to other intellectual developments. This is as it should be. These annual meetings have been productive of an incalculable amount of good, and have awakened an interest that nothing else would. How is it with the agricultural societies? Are they addressed by one of their members? It is a lamentable fact that a majority of the addresses at Agricultural Fairs are given by those belonging to "the learned professions." This should not be so. There ought to be farmers within the bounds of every society capable of giving the annual addresses. They may not be in command of elegant language, or able to make rhetorical flourish in beautifully turned periods;

but they may do what is of more importance, give an address embodying sound practical views in all that pertains to progress in agriculture. It would be looked upon with surprise to see a farmer addressing a society for promoting the interests of law, medicine, or divinity, but just as appropriate as it is for men who have never held a plow, or swung a scythe, or performed the simplest duties of agriculture, to attempt to instruct men who have grown gray in the pursuit of agriculture, as to the best method of cultivating our farms, what crops are adapted to our soil and climate, what leading staple is most profitable, or what breeds of stock are best adapted to the different branches of agriculture. These are important questions, and none but those of large practical experience can answer them to our profit.

There is no reasonable excuse for the meagre knowledge of many farmers at the present day, when such an amount of useful knowledge is thrown by the multitude of books, and on all subjects of interest to their calling. But few employments give men so many leisure hours with their families, or more time for mental culture, if they would improve as they might. Farmers are beginning to think and read more than formerly, and hope the day is not far distant when their acquirements will enable them to take a higher stand, and dispense useful knowledge to those around them. **Hiram Walker.**

Mexico, Aug. 1, 1865.

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Breeding and Management of Colts.

Before commencing this subject, I wish to say that my remarks will be addressed more particularly to farmers who raise one or more colts a year, than to gentlemen who make breeding a business, for the latter class are not apt to fall into the errors that the farmer quite frequently does. I shall commence a little differently from what writers on this subject generally do, and with what I consider to be the most important part of breeding—with the Mare.

This, the starting point, is where farmers are too apt to make their greatest error. They quite unfrequently select for this purpose the poorest mare they have, and one that is totally unfitted for anything else, by lameness, blemishes, or old age; and if questioned why the best instead of the poorest was not selected, the answer very often is, that she was too good to raise a colt from. Now I do not think there ever was a mare too good to raise a colt from. The nearer perfection she is, the more excellencies may be looked for in her offspring. In the first place she must be sound, and have a thoroughly strong and healthy constitution, or else she is not fit to be a mother. Blood and speed are both desirable in the brood mare, but not absolutely necessary, even though you wish to raise a trotter. Blood from the sire, size and beauty from the dam, is an old rule among breeders.

If the mare is a thoroughbred, and has the proper form and qualities for breeding purposes, it is all the better; but she had better lack the blood than the requisite shape. If possible the horse should be of purer blood than the mare. The mare should have a small, lean, boney head, a good cheerful countenance, and an upright sprightly carriage. The head is an important point to be considered, as that indicates her disposition. The neck should be brought out of the top of the shoulders, not the bottom, and thin at its junction with the head; the shoulders long, oblique, strong and muscular; withers high and thin, deep in the chest, rather long from shoulder to the hip, to give plenty of bedroom for the foal. The hips cannot be too broad in the brood mare; the loin should be arched, and the quarters droop a little; the legs short, long above the knee and hock joints, and as short as possible below; feet large, round, even, and dark colored; heels open but not low. The best age is from four to twelve years. I do not not expect every farmer to have a mare answering this description, for I am aware that perfection is not plenty in this world, but if one would breed horses with pleasure and profit, he must select a mare with as many of the important qualities as possible. The size of the mare must depend upon the size and kind of colt desired to produce, for the mare has much more influence on the size and shape of the offspring than the sire. For the road or farm uses, I should say 15½ hands was the best height, and should not vary above 16, or below 15 hands. Too much cannot be said in favor of sound mares for this purpose. If a mare has an equal show of good and bad qualities, more of the bad qualites will be inherited than the good ones. Unsoundness of all kinds is more hereditary from the dam, than from the sire, and particularly bone affections, such as ring-bone, spavin, &c. I may have got this impression from the fact that a great many mares of this kind are bred from every year, while but very few horses are kept for service having these affections. Before putting the mare to horse, she should be brought into the most perfect state of health, by proper exercise, grooming and plenty of good nutritious food. She need not carry an excessively glossy coat, and is better not to be loaded with fat. During the entire time of her pregnancy she should be well fed, and will be benefited by doing ordinary light farm work, until within a month or six weeks of foaling, when she should be turned out by herself where she can be seen every day. Drawing heavy loads, and travelling at too great a rate of speed, are injurious.

If speed is desired in the colt you intend to raise, the straight or upright shoulder should be carefully avoided in the mare, but if it is for draft purposes, that make of shoulder is very desirable. It is almost impossible to have speed combined with an upright shoulder, and they make unpleasant road horses, because they are apt to stumble; the action forward is not high enough for anything except slow work, H. C. W.

(*To be continued.*)

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TRANSFERRING BEES.

Gentlemen Editors—I had three hives of bees in old hives, two of them box hives after Mr. Quinby's book, and one the first hive I made at the commencement of my experiments, and placed a swarm in it June 18th, 1860. They had each given me one swarm this season. On the first day of August I resolved to transfer them to my new hives. I took the first at 6 o'clock in the morning, and succeeded in placing it in the new hive, and on its stand—time, 1½ hours. I commenced with the second at 2 o'clock, P. M., and found it to occupy some 2½ hours. I commenced with the third at 6 o'clock P. M., and had the bees very satisfactorily transferred, and upon their stand, in 1 hour. I made the transfers unattended and unassisted. I think I should not hesitate to improve either part of the day for transferring, but should prefer the last hour and a half's sun in the afternoon, or begin one-half hour before sunrise in the morning. **Jasper Hazen.**

IRON PIPE FOR CARRYING WATER.

Eds. Co. Gent.—In your issue of the 13th, in speaking of conveying water from a spring, in answer to an inquirer, you advised the use of "lead pipe."

My object in noticing this article is to call the attention of those of your readers who contemplate using pipe or tubing, that wrought iron pipe, commonly known as gas pipe, is not only much cheaper, but better adapted for the use of farmers, and is perfectly free from any poisonous effects.

This pipe is very strong and durable (much of it being used for steam purposes.) It can be had as it comes from the factory, or coated with zinc, both inside and outside, to prevent its rusting. It is made in sections of different lengths and screwed together, and of all sizes from ¼ inch to 3 or 4 inches in diameter, measured from the inside. To be used with this pipe are elbows, bends, return bends, crosses, T's, reducers, and a host of other joints and fittings, so that any angle or bend can be made at any desired point, and of any shape. Cocks, valves and intersecting branches can be inserted anywhere, and can be either larger or smaller than the main pipe without any extra work. This can all be done by any man of ordinary intelligence, and requires neither fire, sodder nor expensive tools.

This pipe is sold by the foot, and not by the pound, and if I remember rightly, two feet of iron pipe will cost no more than one of lead. And it matters not how many different places one may buy pipe and fittings, they will always be sure to fit if of the same diameter.

Any person wishing to use this pipe, can measure the distance the pipe is to go, and note down where angles, cocks, etc., are to be placed, and the dealer of whom he purchases will have it cut so as to come together to a fraction. All the tools necessary to do the work, is a pair of gas-fitter's tongs for each sized pipe; these can be bought or borrowed of a gas fitter, in a neighboring town. J. S. D. *New-York, July* 21

IMPORTANCE OF UNDERDRAINING.

[In publishing the following, it is scarcely necessary to premise that the "Agricultural Fund" referred to, being appropriated by Congress for a certain fixed purpose, could not be diverted from that purpose by the States, to any other, however important in itself it might be considered.]

To the Country Gentleman—Through your journal I wish to suggest to the people of the several States a different application of the coming agricultural fund for colleges and experimental farms.

It is that each State shall loan this money, and more with it, for five years to any farmer applying for it, for the exclusive purpose of *underdraining a portion of his farm*, paying only a small interest for the money.

My reasons for the suggestion are: First, that the *first requisite* toward improved farming is *underdraining*—second, that this fact is to so many unknown, and by others unappreciated—together including us all—third, that the means at hand and at a low interest might yield just the encouragement needed.

As the amount of funds will be limited let the sum be apportioned to each county pro rata, and limit each man to a small per cent. of his land in cultivation.

Thus all over the State, in every neighborhood, our people can *see* the effect of underdraining; and seeing, they must and will appreciate the benefits. In the five years the increased yield of a field will repay the cost of its drainage, and at any rate the money comes back and can then be applied as Congress requires, in agricultural colleges. By that time our whole population will be educated in the first great lesson of agricultural improvement, and ready to receive and experiment upon the teachings of scientific farming.

I read in Judge French's writings, that a government loan had been adopted in England, and the result all that was anticipated—"nearly the whole island being now underdrained."

I wish the judge would consider the present opportunity for doing the same thing in this country, and lend the aid of his efficient pen. It is not antagonistic to the colleges, but would become a powerful stimulant to their establishment and future usefulness. Five years may seem to a *fast people* a long postponement; looking forward it may, but in looking backward it does not.

Arguments at full length, and detailed plans for disbursing, securing and re-imbursing the money, will suggest themselves to every thinking man, and need not be here dwelt upon. If the object is admitted to be primary and superior even, to the college, and if the proposed diversion of the money is practicable and prudent, it only remains to agitate the subject until the public mind and those who have the authority, shall set about it.

If this article shall be the means of soon causing a ten acre lot to be underdrained in every township in a State, the author will think he has done more good in his time, than he had ever before hoped.

Fort Wayne, July 22. J. R. S.

THOUGHT IN FARMING.

Forecast, energy, perseverance—what will they not accomplish? Not the majority of farmers lay their plans for years ahead, but wait the time of action, and then have no well digested plan, and perhaps no plan at all, with which to commence and carry on the operations of the season. All this is wrong, for the habit of planning is one of the *elements* of successful agriculture. There are many failures simply from this one point. Forecast should accompany energy and perseverance, for without it they will not work to the advantage they otherwise would with the proper forethought. What we want, is greater mental application, more enlarged and careful thought, with the energy of purpose characteristic of the successful man of business, and we shall succeed. "Success is secure unless energy fails."

"Farmers should look ahead several years to raise good crops." There is as much need for thought in the farmer, and I think more, than there is in the business man of the city, because the farmer has a more varied business—more things to think of. Things that to succeed with must be studied, because of a nature requiring a long time before the returns come in.

Another essential to good and profitable management, is "ability to *buy* in the cheapest and *sell* in the

Mr. Mitchell, in “My Farm of Edgewood,” says: The faculty of right *spending* is at the bottom of all signal success in agriculture; but I would rather think that the faculty of right *selling* is the primary element, because to be able to spend aright, one must have the means to take advantage of the market at the right time, and how is he to get them unless he has sold first? And if in his sales he has sold in the cheapest market, it will make a great difference whether he can spend aright or not. To get the means he must sell, and unless he has the ability to sell in the dearest market, he loses just the difference between the best price obtainable and the best price obtained, which often would have made a profit, but only now serves to lessen the income list, and which must be charged to the want of the *right-selling* ability.

As a case in point, I know of a farmer not far from here, who had 300 bushels of old wheat, for which he was offered $2 for 200 bushels, and $2.05 for the other 100—$605 for the lot; but he held six months longer, when wanting the money, he sold for $1.05 all round, making a difference of $290, to say nothing of the interest of the money for that time. No small item with which to swell the income list. Now the faculty of “right *selling*” would have saved him just that amount, with which he might have exercised the faculty of “right *spending*,” but will now have to let it lie dormant. When you see a successful farmer, you see one who has made good sales, and seldom missed. To know when the iron is hot,—to know when to strike, is to be on the right road to success.

Columbus, O. F. C. W.

The “Grass Bug” and its Habits---Currant Worms.

Eds. Co. Gent.—The so-called “grass-bug” which R. N., Randolph, asks information about, is a species of frog-hopper or leaf-hopper. Without a more accurate description it would be impossible to decide which of them it is, but it belong to the *homopterous Hemiptera*, and the family Cercopididae. The name of cuckoo-spittle is generally applied to them in the “Old Country.”

The eggs are laid on the stalks of grass and the stems of willows, (where they may also frequently be found,) and when the young hatch they immediately pierce the stems with their beaks, and imbibe such quantities of sap that it oozes out from the pores of their bodies in the shape of froth. This froth serves to protect them from their enemies, as well as from the heat of the sun. When full grown they change to a chrysalis on the stalk on which they fed, and soon after become perfect insects.

In the perfect state they have rather an awkward, squat appearance, being short-bodied and broad. The wing-covers are almost horizontal. In striking contrast with their former slothful, slovenly, larva state, when they were scarcely capable of any motion save that which produced the “froth,” they are now endowed with wonderful leaping faculties, being able to leap three hundred times their own length. As they pass the winter in the egg state, and the eggs are deposited on the grass, burning the stubble in the winter will naturally destroy them, and is the only way in which it can be done.

Allow me, Messrs. Editors, respectfully to make a suggestion here. I notice in your last number that you are rather severe on some of the members of the “Rochester Fruit-Growers’ Society,” for stating that the “currant-worm” in its perfect state is a fly. They may be right, and you are right also. The difficulty arises from applying such an indefinite and general term as “currant worm” to any single insect. If there were only one currant worm it might do, but besides the spotted yellow caterpillar which produces the drab colored miller, there is another currant worm —*a false caterpillar*—equally destructive, and stripping the trees just as thoroughly as does Mr. “Spotted Gentleman,” which produces a fly or bee.

Chicago, Ill., July 22, 1865. CHARLES V. RILEY.

Let us Hear your Experience?

How easy to test many of the rapidly springing up theories current. For instance, on the great hobby of grapes—one man says his grapes, of the mildewing sorts too, running over green trees, never rot. Another that his vines, standing in an old ash bed never rot; or that since he put on a heavy dressing of leached ashes it has cured them. Another, that dusting the vines in bad mildewy weather with sulphur, cures infallibly.

Now there are 50 men, more or less, good credible witnesses, all interested in getting at the truth on these and one hundred other similar points, who are writing you, and now why not let them bear testimony as far as they are able? They are all equally interested, and would gladly have specifics established for all horticultural maladies. Why not, then, “communicate and do good?” Setting out, as all should, with the firm faith that health is the normal condition of all living things—such health and maturity as imply the formation of seed and fruit, by which capital process nature propagates her species—let all take hold together, and concentrate our efforts.

Another thing that the writer has before mentioned —why not, in the efforts at hybridizing, make a parent of some of our iron-sided, native grapes, to which any damage from cold or rot or mildew is unknown?

Another point claimed in trellis culture is that a good coping, say 18 inches wide, keeps off mildew and rot.

Means to ends—ends desirable, attainable: what has been may be—what ought to be will be, and blessed be the inventor and discoverer! Does the rot or curculio or apple worm, let your or your neighbor’s plants and fruits alone? Why is it? Among so many, shall not the cause and remedy be discovered?

Bloomington, Illinois, July 24. F. K. PHŒNIX.

TIME TO CUT GRASS.

Some good articles have appeared in this paper on haying, showing that all grass should be cut when in bloom, before forming seed. But the notion is very prevalent that grass gains as much by filling up at bottom as it loses by maturing at top. In this section it is cut from time of bloom to the last of August. Most of it is ripe as grain, stalks woody, and seed shelled out. Hence the land is full of grass seed. Stock eat a great quantity of this straw in order to live, and it costs just as much to gather it as it does good hay. Why don’t the political papers inform those readers that take no other journal? A. L. L.

List of Agricultural Exhibitions for 1865.

STATE, PROVINCIAL, &c.

American Institute,	New-York,	Sept. 12 to Oct. 19
California,	Sacramento,	Sept. 11.
Canada, Upper,	London,	Sept. 18, 23
Canada, Lower,	Montreal,	Sept. 26, 29
Illinois,	Chicago,	Sept. 4, 9
Indiana,	Fort Wayne,	Oct. 2, 7
Iowa,	Burlington,	Sept. 26, 29
Kentucky,	Louisville,	Sept. 12, 15
Michigan,	Adrian,	Sept. 19, 22
New-England,	Concord, N. H.,	Sept. 5, 8
New-York,	Utica,	Sept. 12, 15
Ohio,	Columbus,	Sept. 12, 15
Pennsylvania,	Williamsport,	Sept. 26, 29
Vermont,	White River Junction,	Sept. 27, 28
Wisconsin,	Janesville,	Sept. 25, 30

COUNTY AND TOWN—MAINE.

Cumberland,	Portland,	Sept. — —
Franklin,	Farmington,	Oct. 3, 5
Hancock,	Elsworth,	Sept. 26, 28
York,	Biddeford,	Oct. 10, 12

NEW-HAMPSHIRE.

Merrimack River,	Nashua,	Sept. 20, 21

VERMONT.

Chittenden,	Burlington,	Sept. 19, 21
Franklin,	Enosburgh Falls,	Sept. 20, 21
Rutland,	Rutland,	Sept. 27, 28

MASSACHUSETTS.

Barnstable,	Barnstable,	Oct. 3, 4
Bristol,	Taunton,	Oct. 3
Berkshire,	Pittsfield,	Oct. 3.
Essex,	Lawrence,	Sept. 26.
Franklin,	Greenfield,	Sept. 28.
Housatonic,	Great Barrington,	Sept. 27.
Hampshire,	Amherst,	Sept. 26.
Hampshire, Franklin &	Hampden—Northampton,.	Oct. 5, 6
Hampden,	Springfield,	Oct. 3, 4
Hampden East,	Palmer,	Oct. 10.
Highland,.	Middlefield,	Sept. 14.
Hoosic Valley,	North Adams,	Sept. 19.
Middlesex,	Concord,	Sept. 21.
Middlesex South,	Framingham,	Sept. 19.
Middlesex North,	Lowell,	Sept. 28.
Martha's Vineyard,	West Tisbury,	Oct. 17.
Nantucket,	Nantucket,	Sept. 26.
Norfolk,	Dedham,	Sept. 28.
Plymouth,	Bridgewater,	Oct. 5.
Worcester,	Worcester,	Sept. 21.
Worcester West,	Barre,	Sept. 28.
Worcester North,	Fitchburg,	Sept. 26.
Worcester South,	Sturbridge,	Oct. 5.
Worcester Southeast,.	Milford,	Sept. 26.
Worcester Hort.,	Worcester,	Sept. 16, 22

RHODE ISLAND.

Aquidneck,	Middletown,	Aug. 29, 31

CONNECTICUT.

Fairfield,	Norwalk,	Sept. 27, 30

NEW YORK.

Albany and Renssel'r,	near Albany,	Sept. 19, 22
Broome,	Binghamton,	Oct. 3, 5
Cattaraugus,	Little Valley,	Sept. 26, 25
Camden,	Camden,	Sept. 25, 28
Cayuga,	Auburn,	Oct. 3, 8
Chautauqua,	Westfield,	Sept. 5, 7
Chenango,	Norwich,	Sept. 18, 20
Delhi,	Delhi,	Oct. 5, 6
Duchess,	Washington Hollow,	Sept. 26, 28
Essex,	Elizabethtown,	Sept. 21, 22
Gorham,	Reed's Corners,	Oct. 6.
Greene,	Cairo,	Sept. 19, 20
Genesee,	Batavia,	Sept. 20, 21
Jefferson,	Watertown,	Sept. 5, 7
Monroe,	Rochester,	Sept. 26, 28
Moriah,	Port Henry,	Sept. 28, 29
Manlius and Pompey,.	Manlius,	Sept. 28, 29
Oneida,	Rome,	Sept. 25, 28
Oswego,	Mexico,	Sept. 19, 21
Otsego,	Cooperstown,	Oct. 3, 5
Ontario,	Canandaigua,	Sept. 20, 22
Oxford,	Oxford,	Sept. 25, 27
OrangeCo.Horse Show	Middletown,	Sept. 6. 7
Oswego Falls,	Oswego Falls,	Sept. 26, 28
Putnam,	Carmel,	Sept. 13, 15
Queens,	Flushing,	Oct. 4, 5
Rushville,	Rushville.	Sept. 26, 27
Saratoga,	Saratoga Springs,	Sept. 5, 8
Schoharie,	Schoharie,	Oct. 4. 6
Suffolk,	Riverhead,	Sept. 27, 28
Susquehannah Valley,.	Unadilla,	Sept. 21. 22
Tompkins,	Ithaca,	Oct. 27, 28
Ulster,	Kingston,	Sept. 20, 22
Vienna,	North Bay,	Sept. 27, 28
Washington,	Salem,	Spet. 27, 29

NEW-JERSEY.

Burlington,	Mt. Holley,	Oct. 3, 4
Morris,	——— ———,	Sept. 19, 21
Sussex,	Newton,	Sept. 26, 28

PENNSYLVANIA.

Adams,	Bendersville,	Sept. 19, 21
Berks,	Reading,	Oct. 3, 5
Bucks.	Newtown,	Sept. 26, 27
Chester,	West Chester,	Sept. 29, 30
Doylestown,	Doylestown,	Oct. 3, 5
East Pennsylvania,	Norristown,	Sept. 19, 21
Glenwood,	Glenwood,	Sept. 20, 27
Mt. Pleasant,	Hickory,	Sept. 25, 27
York,	York,	Oct. — —

OHIO.

Ashtabula,	Jefferson,	Oct. 3. 5
Athens,	Athens,	Sept. 27, 29
Butler,	Hamilton,	Oct, 3, 6
Belmont,	Belmont,	Sept. 19, 21
Clarke,	Springfield,	Sept. 5, 8
Delaware,	Delaware,	Sept. 26, 28
Franklin,	Columbus,	Sept. 6, 8
Fulton,	Ottokee,	Sept. 13, 15
Geauga,	Burton,	Sept. 19, 21
Greene,	Xenia,	Sept. 27, 29
Hancock,	Findlay,	Oct. 5, 7
Harrison,	Cadiz,	Oct. 4, 6
Highland,	Hillsboro,	Oct. 4, 6
Lake,	Painesville,	Sept. 27, 29
Madison,	London,	Sept. 7, 9
Marion,	Marion,	Sept. 20, 23
Morgan,	McConnellsville,	Oct. 3, 5
Morrow,	Mt. Gilead,	Oct. 3. 6
Portage,	Ravenna,	Sept. 20, 22
Putnam,	Ottawa,	Sept. 27, 29
Stark,	Canton,	Oct. 3, 6
Summit,	Akron,	Oct. 4, 6
Trumbull,	Warren,	Sept. 20, 22
Wayne,	Wooster.	Oct. 4, 6
Wyandot,	Upper Sandusky,	Sept. 27. 29
Warren,	Lebanon,	Sept. 20, 22

KENTUCKY.

Bourbon,	Paris,	Sept. 4, 8
Clarke,	Winchester,	Aug. 29.

INDIANA.

Dearborn,	Lawrenceburg,	Sept. 27.
Hendricks,	Danville,	Sept. 26, 29
Laporte,	Laporte,	Sept. 27, 29
Posey,	New Harmony,	Sept. 26, 29

MICHIGAN.

Berrien.	Niles,	Sept. 26, 28
Calhoun,	Marshall,	Sept. 27. 29
Cass,	Cassapolis,	Sept. 27, 29
Genesee,	Flint,	Sept. 27, 29
Hillsdale,	Hillsdale,	Oct. 4, 6
Horse Show,	Kalamazoo,	Oct. 3, 6
Ionia,	Ionia,	Oct. 4, 5
Ingham,	Mason,	Sept. 27, 28
Kent,	Grand Rapids,	Sept. 28, 30
Livingston,	Howell,	Sept. 26, 28
Oakland,	Pontiac,	Oct. 4, 6
Ottawa,	Lamont.	Sept. 27, 29
St. Joseph,	Centerville,	Sept. 27, 29
Shiawassee,	Owosso,	Oct. 4, 6
Washtenaw,	Ann Arbor,	Oct. 4, 6

ILLINOIS.

Boone,	Belvidere,.	Sept. 19, 21
Bureau,	Princeton,	Sept. 12, 14
Cass,	Virginia	Aug. 22, 25
Coles,.	Charleston,	Sept. 15, 18
DeKalb,	DeKalb,	Sept. 27, 29
DuPage,	Wheaton,	Sept. 13, 15
DeWitt,	Clinton,	Sept. 27, 29
Greene,	Carrolton,	Sept. 26, 30
Fulton,	Lewiston,	Sept. 13, 15
Henry,	Cambridge,	Sept. 13, 14
Jackson,	DeSoto,	Sept. 27, 29
Kendall,	Bristol.	Sept. 19, 21
Kankakee,	Kankakee,	Oct. 4, 6
Knox,	Knoxville,	Sept. 19, 22
Kane,	Geneva,	Sept. 27, 30
Lake,	Libertyville,	Sept. 19, 21
LaSalle,	Ottawa.	Sept. 26, 29
Macoupin,	Carlinville,	Sept. 3, 6
Macon,	Decatur.	Aug. 29, 31
Madison,	Edwardsville,	Aug. 29, Sept. 1.
Mercer,	Millersburg,	Sept. 26, 29
McDonough,	Macomb,	Sept. 27, 29
Montgomery,	Hillsboro,	Oct. 11, 13
Putnam,	Hennepin,	Sept. 19, 21
Richland,	Olney,	Sept. 28, 30
St. Clair,	Bellville,	Sept. 12, 15
Stephenson,	Freeport,	Sept. 26, 29
Stark,	Toulon,	Sept. 26, 29
Winnebago,	Rockford,	Sept. 19, 22
Warren,	Monmouth,	Sept. 19, 21
Whiteside,	Sterling,	Sept. 19, 22

IOWA.

Benton,	Vinton,	Sept. 13, 15
Cedar,	Tipton,	Sept. 13, 15
Clinton,	Lyons,	Sept. 12, 15
Dubuque,	Dubuque,	Sept. 26, 28
Guthrie,	Guthrie Center,	Sept. 14, 15
Jasper,	Newton,	Sept. 13, 15
Jones,	Anamosa,	Sept. 13, 15

Scott,	Davenport,	Sept. 15, 22
Van Buren,	Keosanqua,	Oct. 5, 6

CALIFORNIA.

Contra Costa,	—— ——,	Sept. 19, 23
Northern District,	Marysvile,	Aug. 28, 30
San Joaquin,	—— ——.	Sept. 26, 29

CANADA WEST.

So. Ontario,	Sept. 27, 28	Pickering,	Oct. 10.
Peel,	Oct. 3, 4	West York,	Oct. 11, 12
East York,	Oct. 5.	Whitby,	Oct. 12.
Scarborough,	Oct. 6.	Whitchurch,	Oct. 13.
North York,	Oct. 10, 11	Gore of Toronto,	Oct. 18.
City of Toronto,	Oct. 19, 20	Lambton, Sarnia,	Oct. 5.

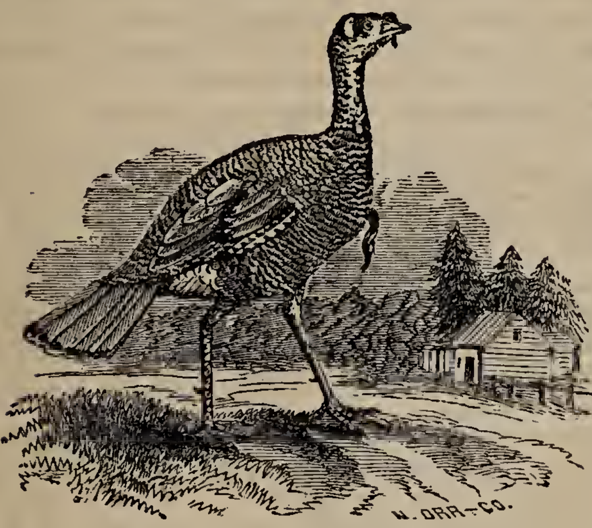
East Durham—Port Hope, ... Oct. 3, 4.

CANADA EAST.

Sheffield—Waterloo,	Sept. 13	Montcalm—St. Julien,	Sept. 21
St. Johns—St. Johns,	Sept 23	Bagot—St. Leboire,	Sept. 27

THE TURKEY---ITS HISTORY, &c.

The turkey is the most recent, and except the hen, the most valuable of domestic birds. It was unknown before the discovery of America by Fernandez. It is indigenous to this country—a real Native American. It is one of those fowls that as yet are found in a wild as well as the domestic state. How long this may be is a mystery; probably not long, for as civilization and improvements advance they will doubtless share the same fate as the Indian and buffalo.



THE WILD TURKEY.

Buffon remarks, "as the turkey was unknown before the discovery of America, it has no name in the ancient language." The Spaniards called it *pavon de las Indias*—the peacock of the Indias—because its tail is like a peacock.

The natural habitat of the wild turkey extends from the northwestern territory of the United States to the Isthmus of Panama, south of which it is rarely found. In the States of Michigan, Ohio, Kentucky, Illinois and Indiana, they were more abundant than at present, but like the Indian and buffalo, they have been compelled to yield to the destructive ingenuity of the white settlers, often wantonly exercised, and seek refuge in the remotest parts of the interior.

Audubon observes: "The great size and beauty of the wild turkey, its value as a delicate and highly prized article of food; and the circumstance of its being the origin of the domestic race, render it one of the most interesting birds indigenous to the United States of America. The flesh has an excellent flavor, being more delicate, juicy and highly prized than that of the domestic turkey. The Indians value it so highly that they term it the white man's dish."

The plumage of the wild turkey is generally described as being compact, glossy, with metalic reflections; feathers double, as in other gallinaceous birds, generally oblong and truncated; tips of the feathers almost conceal the bronze color. The large quill coverts are of the same color as the back, but more bronzed with purple reflections. The lower part of the back and tail feathers are of the same color, undulating, barred, and minutely sprinkled with black, and having a broad blackish bar towards the tip, which is pale brown and minutely mottled; the under parts duller; breast of the same color as the back, the terminating black band not so broad; sides dark colored; abdomen and thighs brownish gray; under tail coverts blackish, glossed with brown, and at the tips bright reddish brown.

The plumage of the male is very brilliant; that of the female is not so brilliant or so beautiful. When strutting about with tail spread, displaying itself, this bird has a very stately and handsome appearance, and seems to be quite sensible of the admiration he excites.

Dr. Bachman says that "in a state of domestication the wild turkeys, though kept separate from tame individuals, lose the brilliancy of their plumage in the third generation, becoming plain brown, and having here and there white feathers." C. N. Bement.

TRAINING VINES.

I paid a visit the other day to one of the most successful and scientific grape-growers and wine-makers in this country, and was amazed to see how he trained his vines. Not a particle of that "system" so much extolled in the books was to be seen—wherever a branch chose to grow, it was allowed to grow, and when it got too long to hold itself up, a bean pole was driven down and the vine tied to it. I found that the owner of the vines scorned "geometrical forms," although he admitted that they were pretty to look at. It would not do to call in question such a (want of) system as produced the enormous crops I saw, and the delicious wine I tasted, but I could not help contrasting the vines before me with my pet vines at home, all trained in accordance with the precepts of Fuller or Phin; right and left arms of equal length, uprights equal in number, and the same distance apart, and I began to wonder whether this accuracy is necessary, or at least advantageous. Is there anything in the theory that the two sides of the vine must be "balanced" to secure an equal distribution of the sap, and that the spurs must be of the same number on each arm. Writers on the cultivation of the vine lay down rules for training vines in regular forms, as though it were of the very first importance; but while I admit that they—the regular forms, I mean,—are very agreeable to look at, I wish to ask if the majority of growers regard them as essential?

Mildew, of which we had actually none last year, has made its appearance here this month and the last week in July. Some seedlings from the Catawba suffered most, then the Delawares, while other grapes were but little affected. I have seen no mildew on Concords, Ionas, or Allen's Hybrid, and only specks of it on Israellas, Rogers' Hybrids, and Dianas; but I know a small vineyard a few miles from here, mostly Concords, badly affected with it. J. M. M., Jr.

Walpole, Mass.

Oxen.—In a good working ox we want to see the following qualities: Let him have large nostrils, a long face, a bright hazel eye; which will indicate docility and intelligence; a hoof rather long and not turned outward very much, a straight back, a broad breast, wide gambrel, small tail, and horns of medium size. When you find such an ox as that, he will be a good worker.—*Exchange.*

THE LAUNDRY.

Furniture for the Wash-House.—There should be one or more large kettles. Copper is best, as it precludes the possibility of iron-mould.

Buckets and tubs with wooden handles are best, as careless washers often let clothes be ruined by coming in contact with iron hoops and handles of the vessels they use.

A stout bench on which to set the tub, to prevent the fatigue of stooping while washing.

Each washer should have a cup of soap and a grooved wash-board—those of zinc are best, because more springy, and consequently making the work of the washer easier.

There should be wings on opposite sides of the wash-house through which to stretch clothes-lines, or enough of clothes-horses, on which to hang clothes for drying in winter.

There should also be posts in some sunny grass spots for the same use in fair weather.

There should be always ready for use, barrels for soap, clothes-pins, starch canister, a kettle for making starch, clothes baskets, ironing table, skirt and bosom board, irons of several sizes, stout blankets and sheets, iron-stands and holders, not omitting soft old towels for wiping the irons.

There should be always ready a supply of firstrate soap, starch, gum arabic or spermaceti, indigo, and bee s wax, as likewise materials for any washing fluid you use. These things should be kept in some secure place, subject neither to waste or misplacement.

Washing.—The evening previous to washing, all the clothes should be gathered up and assorted; woolens, colored clothes, unbleached cottons, and linens and fine clothes into their separate bundles. Except woolens and colored clothes, all other kinds should be put to soak over night, the very dirty parts having soap rubbed on them. If you use a washing fluid, it is usually mixed in the soaking-water; if you use no wash mixture, the next morning wring out the clothes, and proceed to wash them carefully through two warm lathers; then boil them in clean lather briskly, but not longer than a half hour. Wash them out of boil, rinse through two waters. The last rinsing-water should have a delicate tinge of blue, likewise a small quantity of starch for all cottons or linens; reserve those you wish stiffer for the last, and mix more starch in the water. Shirt bosoms and collars, skirts, in short any thing you wish very stiff should be dipped in starch while dry. Swiss and other thin muslins and laces are dipped in starch while dry, and then clapped with the hands until in the right condition to iron.

Calicoes, brilliants, and lawns of white grounds, are washed like any other white material, omitting boiling, until the yellow tinge they acquire makes it absolutely necessary. Unbleached cottons and linens follow the white clothes, through the same waters, but must in no case be boiled or washed with them, as they continually discharge a portion of their color, and so discolor the white clothes.

In directing the preparations for washing fluids, we give the process employed with them, but colored clothes, in our experience, can be washed in none of them, without injury to the color.

Calicoes, colored lawns and colored cottons, and linens generally, are washed through two suds, and two rinsing waters, starch being used in the last, as all clothes look better and keep clean longer, if a little stiffened.

Many calicoes will spot if soap is rubbed on them; they should be washed in a lather, simply. A spoonful of ox-gall to a gallon of water, will set the colors of most any goods, soaked in it previous to washing. A teacup of ley in a bucket of water, will improve the color of black goods.

Nankeen should lay in ley awhile before being washed · the ley sets the color.

A strong, clean tea of common hay will preserve the color of those French linens so much used in summer by both sexes.

If the water in which potatoes are cooked is saved and boiled down, it stiffens black calicoes as well as starch, and saves them from the dusty and smeared look they so often have.

Vinegar in the rinsing water, for pink or green calicoes, will brighten them. Pearlash answers the same end for purples and blue.

Flannels should be washed through two suds and one rinsing water; each water should be as hot as the hand can bear, unless you wish to thicken the flannel. Flannels washed in luke-warm water, will soon become like fulled cloth. Colored and white flannels must be washed separately; and by no means wash after cotton or linen, as the lint from these goods adheres to the flannel. There should be a little blue in the rinsing water for white flannel. Allow your flannels to freeze after washing in winter; it bleaches them.

A HOUSEKEEPER.

LARGE HIVES---ITALIAN BEES.

Messrs. Tucker & Son—I have progress to report in the Bee line. Having obtained the idea from my experience, that Italian bees need more room than the Black, last spring I made a hive, mainly after the Langstroth pattern, but two frames wider—honey-box of same size, holding 11 frames—lower part, 12 frames—no partition between the two. In the fore part of May I put in an old stock, having about 8½ combs. Now the 12 lower frames are full, and the surplus honey-box of 11 frames is almost full. There is probably more than 100 lbs. of honey stored in about seven weeks. They did not swarm.

From another swarm which has declined to work in boxes for three seasons, I removed the honey-board, and removed the bottoms of my boxes and sides so as to be one box across the hive—sat on the frames, guide-combs being first stuck in the boxes at the proper distance for combs.

In this way I put on 12 boxes, forming three while on the hive. They are all about full now, besides a good swarm from the old stock.

I find Italians less inclined to work in small boxes than the Black, but they will store a larger amount of honey in large receptacles. Joel Curtis.

New-Britain, Conn., July 11, 1865.

TRANSFERRING BEES AND HONEY.

W. H., Carrolton, Ky., in No. 3 of present vol. of your paper, inquires how he shall get the bees and honey out of his box? Take it in the middle of the day, when many of the bees are off at work; smoke the bees with tobacco, but not too hard. Then set the old hive bottom side up, about twenty feet in front of the old stand; set a box with the bottom all open on top of the hive—if possible have it the same size—stop all cracks or holes where a bee could get out. Before proceeding to work, set a box on the old stand for the returning workers to go into. Now with a hammer or stick in each hand, commence drumming on the old hive for about a minute, then wait several minutes for the bees to fill with honey, after which proceed to drumming rather lively, but not hard enough to detach the combs inside. Drum about twenty minutes, then take off your top box, which will generally contain most of the bees by this time. If this is the box you intend to keep your bees in, set it on the old stand; be *very* careful not to crush any bees, for if you kill the queen your (luck) will vanish. If not intending to keep the bees in this box, set your new hive on the old stand, raise it in front ½ an inch, then turn your bees out close to the hive, and poke them with a thin stick until the bees are collected inside. Let an assistant do this while you return to the old hive; if many bees are left, stir them up gently, put on the box and drum a few minutes more; if there are not many bees left, brush out the few remaining into a pan, and carry them to the new hive. It would be well if there are many bees in and around your yard, to carry the old hive to a building now, and with hammer and chisel rip off a side of your hive, cut out the comb, and brush off and pick up all stray bees, and carry to the new hive. If you use an old-fashioned box hive the job is done, excepting to see that the bees all cluster in the hive, and set it down at night. But to have a sure success you must have a Langstroth or other movable framed hive, and with a partition through the centre of each frame, you tie in with strings all pieces of nice *worker* comb containing brood, or honey mixed with bee-bread and unfit to eat. With three or four frames filled with worker comb, and as many more empty frames placed alternately, first a full frame, then an empty one, and plenty of buckwheat or other fall honey-producing flowers, you will have a colony in good shape to winter, (with not so much honey that they starve to death.) But if you want a tip-top honey-producing colony next season, in the course of a few weeks find your black queen and kill it. In one week cut out queen cells and introduce a pure blood Italian queen procured from a reliable source. Y. R. S.

Feeding and Care of Poultry.

Brood Coops are usually made by nailing boards about two feet long together, so as to form a triangle about three feet deep; the back is boarded up closely, and laths nailed in front wide enough apart to permit the chickens to run in and out.

Feed Coops are long boxes with slatted sides, the spaces wide enough to permit the free ingress and egress of the young, who are thus protected from the voracity of the old fowls. These coops should have shallow troughs in them for food and water, and be moved every few days to a fresh clean place.

Coops for fattening fowls for the table should be kept clean, and always supplied with water, gravel and a box of dry dust or ashes. No fowls will thrive without these provisions. The food should be varied, and of the best quality. If the grain is cooked and some meat allowed, it will greatly increase their thrift.

Food.—In summer we only allow food enough to the grown fowls to habituate them to the yard. But the feed coops of the young should be liberally supplied with soft bread, cooked vegetables, scraps of meat finely minced, curd, milk, melons, anything which observation teaches us they seek. The troughs should be washed out daily and supplied with clean fresh water. It is a good plan to deposit for the benefit of your ducklings, in some corner of the yard, an occasional wheelbarrow of stable manure, or tub of soap-suds, anything that will breed a good supply of insects. In winter all fowls should have access to abundant supplies of food and water. Grain of all kinds, and for hens every day or two, animal food strongly peppered. Without this and lime you need not expect your supply of eggs. A favorite plan of winter feeding fowls with us, has been to scatter oats, straw and all, over our poultry-yard. It makes a comfortable temporary pavement; the hens pick among it as cheerily as if it was summer, and the straw in the spring, and sweepings from our poultry-houses, make a compost for any root crop, that we have never seen equalled.

Nest Eggs.—To have a supply of these, indestructible to heat or cold, just empty some eggs as you need them, through as small an aperture as possible; mix up with water, to the consistence of cream, some pulverized plaster; fill up the shells brimming full; when they have hardened, if you choose to peel them, you will find them perfect; and if you think your Brahmas will be fastidious about color, a little annatto mixed in will render the illusion perfect. A HOUSEKEEPER.

Hardiness of Pear Trees.

It has been widely confirmed by observation that in the same districts of country, and under equal degrees of severity of cold, the same varieties of the pear have been killed in some instances and have entirely escaped in others. Novices have been puzzled to account for contradictory results of this kind—but they are easily explained by an examination of the soil, cultivation or other influences which increase or retard growth, or variously favor the ripening or perfect maturity of the wood. A contemporary states that last winter several hundred fine, healthy looking standard pear trees were destroyed by the severe cold, while dwarfs of the same age, variety and exposure, in adjoining rows received no injury. There is no doubt that if the owner had examined the growth he would have found that the standards had continued growing much later than the dwarfs; that the wood was more succulent and consequently more liable to injury. We have known instances just the reverse of this—where standards had remained uninjured while dwarfs were killed. We mention these facts to show the importance of caution in arriving at conclusions, and the necessity of observing all the influences which bear upon them. For this reason a large number of observations is required to establish the degree of hardiness of any one variety.

Result of Subsoiling, Draining, etc.

MESSRS. EDITORS—I purchased my place in 1859, and that year I cut from 3 14-15ths acres of ground 1½ tons poor hay, and the appearance of the land was not favorable to good crops of any kind. I was told that it would not do to break it up, as it being a sidehill and clayey loam, it would slide badly. Notwithstanding, that fall I subsoiled it, and sowed it with oats in the spring. In the autumn subsoiled again and next year planted with corn; had the largest in the county. I planted 14-15ths acres with fruit trees, leaving just 3 acres, which I sowed with timothy in April as soon as the snow was off. It produced a good crop of weeds; but in 1863 it put up timothy and *clover* strong, and I cut 11 tons—in 1864, 12 tons—in 1865, 13½ tons.

I seeded down the 14-15ths of an acre October 14, 1863, after a crop of potatoes. It promised well; the drouth injured it, but I cut over two tons of as clean timothy as ever grew, and this year 3¾ tons, and I should be afraid to to tell the height of some of it—in all 17 tons, where I got 1½ tons.

Another piece adjoining, harder and more unpromising, which would not pasture a calf, (1 1-10th acres,) I underdrained, then subsoiled, took off—1st. Corn—2d. Potatoes—3d. Oats, (the best crops in this region,) and the 22d of last September, sowed with timothy and this year (*first* crop) cut 6,200 pounds *clean* hay (about 3 tons to the acre.)

The piece sowed in the spring was *weeds* for the first crop, and foul since. The second piece was sowed later than I like, but a good *first* crop, and *clean*. The third piece was about right every way. I think, sow grass seed in the fall.

Bright Bank, Ulster Co., July 28, 1865. J. B. S.

N. B.—I used some manure

Gas Lime---its Application to Soils, &c.

Eds. Co. Gent.—Mr. Stephen Hayward, Jr., of Plainfield, Mass., writes me a letter referring to the communication I sent you, published in Co. Gent. of July 27, in reference to Gas Lime. He asks the following questions:

1. "How large a quantity is it necessary to apply?"

2. "What is the most suitable season for its application?"

3. "Will it be likely to injure young apple trees, just coming into bearing, if applied in a sufficient quantity to kill the quack grass?"

As my article of the 27th was written for the Co. Gent., I have concluded to answer him through your columns rather than in my own paper.

Mr. Hayward gives no clue to the character of his soil, nor as to whether he desires the application for the benefit of grass or other crops.

I should mislead Mr. Hayward by advising him to apply a maximum quantity of any mineral fertilizer. Gas lime may or may not be of service to his soil. The results obtained from the application of calcareous manures are various on different soils. In my article of the 27th I gave the effect produced by an application of gas lime on grass lands near Rochester, applied at the rate of 30 bushels of the lime per acre —it doubled the crop—and I suggested that farmers try it on their lands, moderately at first, and watch its effect. I would advise Mr. H. to mark off three small pieces of land and apply the lime at the rate of 10, 20 and 30 bushels per acre on these pieces respectively. Let it be applied this fall on grass, and again on three other pieces in spring. In this way he will satisfy himself of its value without any great risk of injury, and if he will communicate the result of his experiments to some agricultural paper he will be doing service to others as well as himself.

As to its application about young fruit trees in sufficient quantity to kill quack or couch grass, I should hesitate to use it on an extended scale without testing its character by experiment.

Mr. B. B. French in a communication from Washington to one of the New England papers, states that he applied in the spring a cart load of gas lime about a plum tree, for the purpose of saving the plums from attacks of the curculio. It had the desired effect, the tree bearing abundantly.

The second season he made another application with the same marked result. He speaks of no injury to the tree from the application. Here is the fact in one man's experience, but farmers are not expected to apply this rule to the letter and dose every plum tree on their premises. It is a suggestion by which experiments may be made, modifying here and there to meet the case in hand.

Manufacturers of gas for illumination purify the gas by the use of wet lime, and these impurities are absorbed by the lime. Professor Johnson speaking of refuse lime of gas-works says:

"This refuse lime consists of a mixture of carbonate of lime with a variable quantity of gypsum and other salts of lime containing sulphur, and a little coal tar and free sulphur, the whole colored usually by a little Prussian blue. The following table exhibits the composition of two gas limes which have been analyzed in my laboratory, the one from the Edinburgh gas-works, and the other from the gas-works in Brick-lane, London. The first two columns show what they *were* when sent to me, the second two what they *will become* after long exposure to the air, after being made into compost, or after being thoroughly, and for a length of time, incorporated with the soil:

Composition of Gas Lime.

	As they are.		As they will become.	
	Edinburgh.	London.	Edin.	London.
Water and coal tar,.......	12.91	9.59	12.91	9.59
Carbonate of lime,.......	69.04	58.88	67.39	56.41
Hydrate of lime. (caustic,)	2.49	5.92	——	——
Sulphate of lime, (gypsum)	7.33	2.77	16.45	29.32
Sulphite and hyposulphite of lime,......	2.28	14.89	——	——
Sulphuret of calcium, ...	0.29	0.36	——	——
Sulphur,......	1.10	0.92	——	——
Prussian blue, ...	2.70	1.80	2.70	1.80
Alumina & oxide of iron,.	——	3.40	——	3.40
Insoluble matter (sand, &c)	0.64	1.29	0.64	1.29
	98.69	99.82	100.09	101.81

"This table shows that these gas-limes differ much in composition, especially in the proportions of sulphur or of the acids of sulphur they contain. This arises chiefly from the kind of coal which is employed in the manufacture of gas in different works. In Scotland different varieties of cannel coal are very extensively employed. In London, the better kinds of Newcastle coal are chiefly used, all of which either contain or give off more sulphur than the best cannel coals of Scotland.

"The most marked difference between the two samples here analyzed, is in the compounds called *sulphite* and *hyposulphite* of lime. The latter of these substances dissolves readily in water, and its presence in such very different proportions satisfactorily accounts for the very different effects which here followed from the application of gas lime to the land in different districts. The rains dissolve the hyposulphite and the sulphuret, and carry them down in too great quantity to the roots of the young corn, and hence the complaints of some, that gas lime has killed their wheat, while others have found, when applied as a top-dressing in a similar way, that it generally improved their crops of corn.

"Unless its composition be satisfactorily ascertained, therefore—unless, for example, it be found that aterw dissolves very little of it—there will always be a degree of risk in applying it directly to the land while any corn crop is growing. There may not be the same danger in putting it between the turnip or potato drills, and afterwards ridging up the lands in the way that quick lime is applied in many districts. To fallow land, however, to land which it is intended to reclaim, and especially to mossy land, the Scotch varieties, at least, may be applied directly, with safety and with great benefit. In the neighborhood of Paisley it is in constant demand for the improved moss lands, and sells at about 1*s.* 6*d.* a cart.

"But those varieties which contain the largest quantity of the soluble hyposulphite of lime, also form at least the largest quantity of gypsum. Thus the Edinburgh lime analyzed would never come to contain more than 17 per cent., but the London lime might eventually contain as much as 30 per cent. of gypsum. This suggests the propriety, therefore, of laying it on and harrowing it slightly in, some months before any crop is sown—in the spring, for instance, before the turnip sowing—or of making it into composts, perhaps the best and safest method of all."

Little Falls, Aug. 10th, 1865. X. A. WILLARD.

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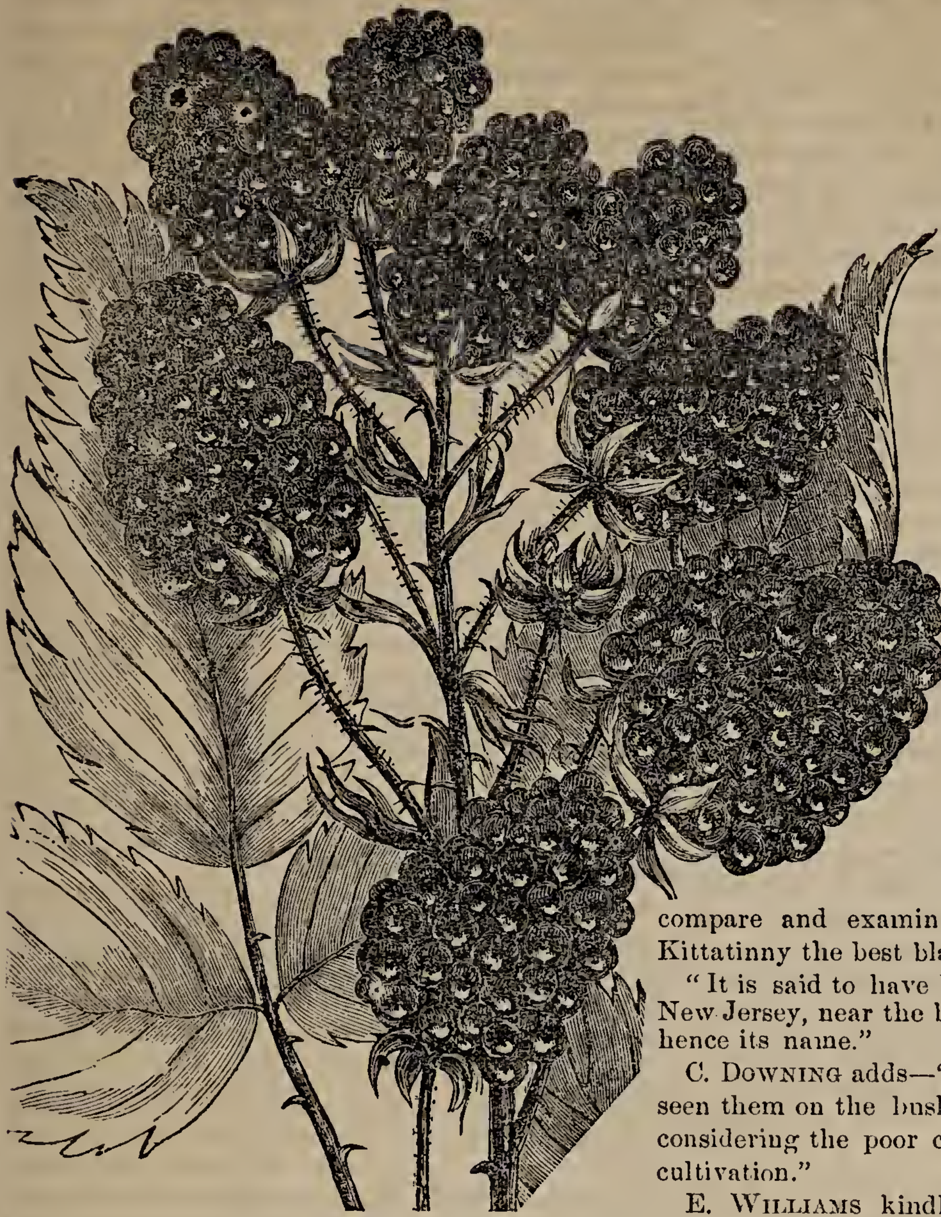
Horse-Hoe.—A Connecticut correspondent writes us as follows:—"The horse-hoe of D. M. Dunham & Co., Bangor, Maine, which you helped me to get, is a grand implement. A field of mine in corn, which last year occupied two men and a plow four days, was this year done up by the horse-hoe and two men in two days, and thoroughly well done."



The Kittatinny Blackberry.

Being unable to accept an invitation from E. Williams of Montclair, N. J., to accompany a party into Sussex Co., for the purpose of examining the new Kittatinny Blackberry plantations, Chas. Downing, who was present, has kindly furnished the following facts in relation to it:

"We visited several gardens where it was more or less grown—in one I should think to the extent of half an acre—(but only one with good cultivation.) As to vigor and productiveness, I did not perceive any difference, except the leaves were a little more serrated — size of berry fully equal, but rather larger—decidedly sweeter, and an acquisition to this class of fruits.

"In one of the gardens the Kittatinny and New Rochelle were growing side by side, and apparently of the same age, so that we had a fair opportunity to compare and examine them fully, and I consider the Kittatinny the best blackberry I have yet seen.

"It is said to have been found in the town of Hope, New Jersey, near the base of the Kittatinny mountains; hence its name."

C. Downing adds—"I wish you had been here to have seen them on the bushes—the quantity was immense, considering the poor cultivation they had, or rather no cultivation."

E. Williams kindly sent us a box of this blackberry, but although they retained their form, they had lost most of their flavor by fermentation. Enough, however, remained to show that they are sweeter than the Rochelle. In measurement they averaged a full inch in length, and five-eights of an inch in diameter; some were a little larger. This is fully equal in size to the Rochelle under common good cultivation. So far as we can imperfectly judge, we should regard this variety as intermediate between the Dorchester and the Rochelle, perhaps larger and more productive than either.

THE APPLE-WORM

This insect is becoming truly formidable, and a large share of the small crop of apples of the present year is spoiled by its injuries. We have already noticed the new contrivance of Dr. Trimble for destroying it by means of hay ropes passed around the trunks of the trees at midsummer, under which these insects pass to the pupa state, and are then easily killed. This remedy is no doubt useful as far as it goes, but we question if it will prove anything more than a useful auxiliary. Swine in sufficient numbers to eat all the fallen fruit from the moment it begins to drop until it approaches full maturity, will doubtless prove very effectual. But those who have large orchards will find it difficult to assemble swine enough to do the entire work in a complete manner. It may be necessary, therefore, to resort to sheep—the only objection to which, is their propensity to bark the trees; encircling them with board boxes, or rolls of basswood bark peeled from saw-logs will be easier and better than to allow the insects to ruin the crop. Sheep soon become fond of half-grown apples, and eat them readily. No orchard should be permitted to run to grass until the trees have attained good size; and even then nothing of larger growth than the short herbage of sheep pastures. The top-dressing of manure which these animals will give the orchard will prove another advantage. An additional scattering of manure from the yard in autumn will make up the deficiency of growth occasioned by a covering of turf.

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PRODUCTIVE PEARS.

The present season affording but a small crop of pears, is the time to acquire information in relation to those which are most reliable for their productiveness. It would therefore assist this object if our pear growing correspondents would furnish lists of those which are bearing heavily. As a small contribution in this direction, we may state that the following varieties are bearing full crops on our grounds, viz., Rostiezer, Belle Lucrative, Jones' Seedling, Baron de Mello, Bartlett, Beurre d'Amalis, and Vicar of Winkfield. We have scarcely met with a tree of the last named sort that is not bearing well. Louise Bonne of Jersey, so widely famed for its productiveness, has but a moderate crop this year.

BEANS AS A RENOVATING CROP.

Messrs. Tucker & Son—Articles and suggestions on the general subject of renovating and enriching exhausted, mismanaged, worn out and naturally thin soils, are always in order, because in some respects unfortunately perhaps, but in others, as for instance from the fact that men generally do, and probably always will, require something of the nature of a spur to engage them in their duties—not so unfortunate after all, because, I repeat, there is always a large quantity and proportion of the soils under cultivation that require to be brought into a higher state of fertility before they can possibly be profitable to till.

Some years ago my attention was drawn to beans pretty closely in consequence of sheep being so partial to them, and for six or seven years I have grown them, not so much for direct profit, but chiefly for the same reason that clover is grown, and manure composted and applied, for the sake of the indirect but large aggregate advantages, in one way or another, attending their production. It has been shown to a demonstration repeatedly that clover has an immense mass of root matter, which is left in the ground, supplying it with much organic matter in this way, besides letting in the air, all of which is freely admitted. But there is one disadvantage attending the growing of clover, as compared with corn or beans, which is that the ground is *not worked* while the crop is growing. And though clover is unquestionably an excellent rotation alternative crop, there are yet other disadvantages attending its production that I shall explain at another time, when I shall expect to see your eminently practical correspondent, F. of Orleans Co., surprised at my audacity in undervaluing his favorite renovating crop.

I was proceeding to say that as compared with clover, corn and beans admitted of the ground being well worked while they are growing, which, with clover, is not the case. It is not in question here that farmers have not enough to do, or whether they want what Wm. Cobbett called potatoes—a lazy crop; but the question is how can the fertility and productiveness of the soil be most profitably and rapidly increased without any greater facilities than such as the generality of farmers possess and can apply if they will. I think and believe my experience warrants the conclusion that even on light soils, if the proper crops be adopted, working is to a considerable extent the equivalent of manure. Lawes & Gilbert's experiments have shown this on strong soils, and the Lois Weedon experiments have justified Tull's theory that it is true as to heavy soils. My success in raising wheat after beans has convinced me that the same principle will hold good as to the medium and light loams.

Five years ago we had a wet season throughout the month of May—so wet was it that the blackbirds took up several acres of our corn, in spite of our best efforts to save it. This ground had borne two crops of wheat and was fall plowed and lightly surfaced manured in the winter for the corn, but after the latter was up the blackbirds took the whole of it, or thereabout, on one side of the field; the other side, about four acres, having about half a stand, being left and worked. On the half of the piece where the corn was destroyed we planted small white beans, furrowing out with a one horse plow, and dropping in bunches. Corn and beans were cultivated alike, with a Sayres' cultivator, through the season. The soil on which the beans grew or the upper part of it, was a little lighter than that bearing the half crop of corn. On the west side of the same field was a piece of new land bearing its second crop only, wheat of course. The whole field, about ten acres, was fall plowed after the beans, corn and wheat were off, and a surface manuring applied on the three acres of new ground, after which in the spring, the whole piece was sown to Fife wheat. Now for the difference in results. On the corn ground there was a fair crop of wheat of medium quality, about 18 bushels to the acre. On the other side, where the ground was manured and newer, there was a crop of 20 bushels, or a little over, per acre. (I judge by counting the bundles, made of the same size, and comparing numbers.) But on the piece of bean ground between the other two pieces of wheat, there was the heaviest, finest piece of wheat in the vicinity, averaging 26 bushels per acre at least, and what I several times took a special walk to notice was this—during the whole, but particularly the latter part of the growing season the wheat after beans was by several shades a darker green than either that after corn or the other piece after manuring. The field where this experiment took place is in sight, as I write.

Another experiment of the same kind, but varying in conditions, will go to support the same view. It is this: our present orchard, about 3 acres, was so poor when I bought the place, four years ago, that I did not raise wheat enough (it was too far away, and I had so much to do, I could not plant it to hoed crops, which only should be grown in orchards, I am aware) to pay for harvesting. The next year it was not cultivated, but bore a fine crop of weeds, which were twice mowed down. For two years previous to the present we have grown fair crops of beans on it, working them precisely as we do corn, with the cultivator. On two acres of this thin soil (which jets out into the midst of the field, into which it must be thrown and a young orchard raised in a suitable place) I sowed wheat the present season. The ground was spring plowed, and the wheat not planted over early. Yet on this sandy loam, after two crops of beans, but without any manure, there is a very good crop of wheat for such land, better than adjoining land after corn even. It is safe to anticipate 18 bushels, and probably 20, of spring wheat per acre.

I attribute such results to the working of the ground, for although it be the fact that there is very little vegetable or organic matter in such soils, it is also true that beans, as with clover, do not require much of such matter *in the soil*, as both draw a large proportion of their organic or vegetable matter from the atmosphere in contact. But mineral matter—and who can define the distinction, considering the allotropic properties of both between approximating conditions of vegetable and mineral substances—is also organic matter, though it may not be transposable to a gaseous form, and the working of thin soils with a crop of beans to shade the surface, causes mineral abrasion and disintegration of the primary structure of the ground, exposing much of its substances to far more rapid chemical changes than could take place were it would not worked.

This is my explanation of the great success of wheat after corn, for we must admit that much mineral matter is required in the straw and the seed together, by a full crop.

If we are met here with the query—but where is your vegetable matter, which clover supplies, to come from? the answer is, we want good crops of *grain*—if with a good crop of straw, as this will serve to make manure, all the better, as some may think, but if, as in my experience, we can get full crops of grain with only short, but stiff straw, the grain yield will be satisfactory, and short, stiff straw is quite as safe, or more so, as against lodging, and the loss of grain resulting from it, both frequently incident to wheat with large, rank growing straw. Short or medium straw is too, quite as pleasant and economical to handle.

As a practical question there are other incidental advantages in growing beans, as a renovating crop, for they are a directly paying crop. For there is nothing so good as an alterative feed of beans to produce wool that won't pull, and the haulm is relished equally with the beans by sheep, and beans furnish two varieties or changes of feed, which sheep so much require. And with the simple exception of pulling, which is a short "job," as President Lincoln would have called it, beans are a pleasant crop to manipulate.

When land in beans is at a distance from the homestead, I have several times drawn them home at pulling time. Here they can be stacked and piled in a convenient place, and remain until frosty weather without being in the way before being thrashed. The beans do not shell in drawing at pulling time, and if they are heavy drawing, the drawing of stakes twice is saved, as well as some beans, as they shell if left to draw when dry. When drawn in this way the crop is out of the way, and the ground can be fall plowed in good season, ready for wheat, either fall or spring, a satisfactory crop of which may be anticipated if the beans are frequently cultivated and no weeds raised. Beans will be found a *sure*, if not a high priced crop, and the wheat crop following will make up any pecuniary deficiency incident to its predecessor.

Green Lake Co., Wis. J. W. CLARKE.

A NEW HEDGE PLANT.

EDS. CO. GENTLEMAN—I send with this for your inspection, a package of specimens of the Silver Thorn. It seems to me everything that is desirable in a hedge plant, and I should be pleased, should you chance to come this way, to have you stop and examine the growing hedge.

The best plants so far discovered for making a quick and effective hedge, are undoubtedly the Osage Orange and Honey Locust; but being naturally trees, they require some knowledge and judgment as to how and when to prune to overcome this tree-growing tendency, and at the same time have a hedge, thick and bushy from apex to base. Even with this knowledge to gain and labor to bestow, a hedge of Osage Orange or Honey Locust costs but one third to plant and maintain in good order, than does the best post and rail fence ever made, and never has the "get over me if you please" expression, that the latter always has.

It has always been felt, however, that if anything *not a tree naturally*, could be substituted for Osage Orange or Honey Locust, it would be a great gain. Hence Buckthorn, Berberry, Pyrus japonica, and other shrubs have been tried: but these *grow too slow;* and hence fast growing trees, with some labor to keep them as hedges, have been found preferable to slow growing shrubs without any labor at all.

This *Silver Thorn* seems to be just the medium between these extremes. About fifteen feet seems to be the average height of full grown plants, and this it will attain in three or four years. It commences to seed at that time, which it produces in abundance, which is one of the first steps towards getting a cheap hedge plant. Seeds sown in the fall or very early in spring, grow to a good size before next fall, and set out make a complete hedge evidently in as short a time as the tree-growing plants. The branches are spiry, and so stiff that even without the spires it would make a good hedge plant. It is naturally so bushy, that even should a man be disposed to neglect trimming, it will probably make a protection for all which neither Osage Orange or Locust will.

The roots of the thorn are fibrous, and will not probably tempt hungry mice or gophers to prey upon them as more fleshy roots will.

But one of the greatest charms to me of this hedge plant is in the beautiful silvery stems and foliage, and the delicious fragrance of its blossoms is quite equal to the Hawthorn in this respect—of the first you can judge a little from the specimens sent, but of the latter you will have to come to see me in June to judge. I enclose a few seeds for you to experiment with.

Botanically the plant is *Eleagnus parvifolia*, a native of the Himalayas, and will probably prove entirely hardy except at very extreme points. The past six winters here near Philadelphia, have not injured the weakest shoot. THOS. MEEHAN.

Germantown Nurseries, Pa., Aug. 8, 1865.

MILDEW OF THE GRAPE.

The following interesting memoranda has been just received from our friend and correspondent CHAS. DOWNING:

"You ask me about Dr. Grant's grapes. Both are doing well and making a fine show of fruit, although the Iona did not set the fruit so perfect as formerly; (this is the case with several sorts that never missed before.) Israella has fine large compact bunches, and is the most promising this season so far of all the newer sorts.

"I regret to say that mildew on the leaves commenced some 10 or 12 days since, and is spreading rapidly. Norton's Virginia Seedling has lost nearly all its foliage; heretofore this has been very free from it, and one of the hardiest, always ripening its fruit without rot or mildew. Rogers' No. 1, 5, and 9 are badly mildewed, both fruit and foliage; the other Nos. are affected more or less on the foliage; fruit still free. The old Alexander, which has always been hardy and free from it, is one of the worst mildewed ones on the fruit—leaves also badly.

"The last to be attacked by the mildew were Iona, Israella, Hartford Prolifi , Concord and Delaware. Catawba, Diana, Concord and ToKalon have commenced rotting, but not very much as yet. One person having a small vineyard of Concords, about a mile from here, has lost nearly his whole crop by rot."

LETTERS FROM EUROPE---III.

The Rhine, July 4th, 1865.

Messrs. Editors—I do not know that I can keep "the day we celebrate" in a better manner away from home, than by writing a letter to that most patriotic individual, the Country Gentleman. It gives me much pleasure to state in this connection, that I had the honor of meeting in the Zoological Garden at Cologne, the American Eagle, or rather a pair of the real bald-headed species, and no mistake about them. Whether the gratification was mutual or not, I had no means of ascertaining, as the trifling obstacle of a strongly barred cage prevented any very near demonstrations of friendship.

On leaving Cologne I proceeded to Bonn, where I called on Prof. Dr. Freytag, the administrator of the Royal Agricultural Academy at Poppelsdorf, near Bonn, to whom I had a letter of introduction from Dr. Hartstein, the director of the institution. I was very kindly received, and Prof. Freytag took much pains in showing me the lecture-room, museum, barns, and other buildings; and also went over the experimental farm, which, with the help of a map brought along by one of the students, and on which the various experiments being made were carefully designated, was very interesting. Among other things I noticed Hoibrunk's system of Air-Drainage in full blast, though no decisive results had as yet been arrived at. It was really a great satisfaction to see an experimental farm actually in operation, for in America, though there has been so much talk on the subject, yet one of the right sort has never yet been established, owing probably to our not knowing exactly what we wanted. The fact is, young men who wish to become teachers in agricultural colleges at home, must come over and study in the best institutions of the kind abroad, before we can accomplish much in that line. This is the course pursued by many professors in our other colleges, with great advantage to themselves and their students. There is no reason why we should not avail ourselves of all the information we can get from Europe, or any other part of the world. They are ahead of us here in two things especially, and those are, education, and police or municipal arrangements. This academy at Poppelsdorf is one of the best in Germany, and is said to be superior in discipline to the one at Hoheuheim. The director, Dr. Hartstein, is a very distinguished man, and was one of the principal advisers in getting up and conducting the great International Exhibition at Cologne. The academy, or college as we would call it, was first opened in May, 1847. I send you a copy of the rules adopted by the Prussian government for its management. The following account I have translated from Mentzel and Lengerke's Agricultural Calendar for 1865, as I think it will prove interesting to your readers:

I. Course of Study and Teachers

1. History and Literature of Agriculture, Science of Agricultural Management, Taxation of Property, General and Special Field and Meadow Culture, Knowledge of Soils and Exercises in Valuation: *Director Hartstein.*

2. Breeding of Cattle, Knowledge of Agricultural Implements and Machines, Drainage of Fields, Book-Keeping and Practical Demonstrations: *Second Professional Administrator, Dr. Kramer.*

3. Science of Cultivating and Managing Forests, Hunting and Fishing Affairs, Repertory of Natural Science: *Dr. Bonhausen.*

4. Garden, Fruit, and Wine Culture: *Garden-Inspector Sinning.*

5. Veterinary Science, Regimen of Domestic Animals, Breeding and Knowledge of Horses: *Depart. Veterinary Surgeon Schell.*

6. Botany and Zoology: *Prof. Dr. Sachs.*

7. Chemistry, Physics, Agricultural Technology, and Practical Chemical Experiments: *Prof. Dr. Freytag.*

8. Mineralogy and Geognosy: *Dr. Riese.*

9. Mathematics, Drawing, Rural Architecture, Exercises in Surveying and Levelling: *Architect Schubert.*

10. Legislation Respecting the Cultivation of Land and Agricultural Common Law: *Prof. Dr. Achenbach.*

11. Science of National Economy: *Prof. Dr. Kaufmann.*

II. General Remarks.

The lectures embrace a two years' course of study in four Semesters, which exactly correspond with the beginning and duration of those of the University of Bonn. As auxiliary means of instruction, besides the estates of Poppelsdorf and Annaberg, the abundant collections and costly apparatus, which belong partly to the University of Bonn and partly to the Academy, are at the command of the latter. In addition should be mentioned, the economical and botanical gardens, tree nurseries, a vineyard, experimental fields, and an agricultural experimental station, opened in the spring of 1857, and connected with the institution, in which, besides the general corps of instructors, a special experimental chemist is engaged. Particularly instructive is the estate of Annaberg, which belongs to the Academy, and which is arranged for extensive operations in husbandry. The necessary improvements, the laying out of a nursery of trees there, as well as the drainage of the fields in process of execution, offer an opportunity to acquaint oneself with these branches, and besides, together with agriculture proper, the culture of hops and tobacco is also carried on.

All the students received into the Institution must be matriculated at the University of Bonn, and enroll themselves in the Philosophical Faculty, whereby they acquire the academical citizenship, and are subject to the discipline and laws of the University. An exception from the obligation of matriculating oneself only happens to those who have passed their thirtieth year. Persons of this age are allowed to be admitted to matriculation only after a previous agreement. Those received in such a way are to be regarded as actual members of the establishment. In addition, with special permission of the Ministry of Agriculture, the attendance of individuals at the Institution for a short time, without the duty of matriculation, may be allowed. These appear as Hospitants, or temporary students, and have to pay the fees for the separate lectures delivered to them at the option of the Director. Admittance to the Institution may be had at the beginning of every Semester. Those received pay, in addition to the matriculation fee of 6 thalers due the University, entrance money and a fee of 40 thalers for 1st, 30 thalers for the 2d, 20 thalers for the 3d, and 10 thalers for the 4th Semester; subscribers for the full year's course also pay 100 thalers.* Entire or partial remission of the fees can only take place in individual authenticated cases of special poverty, and if the applicant during a half-year's residence at the Institution, has shown himself worthy of this distinction by industry and moral conduct Further, a whole or two half free scholarships may be granted forever to ten academicians paying the entire fee. Those leaving receive testimonials of character, and those who submit to a special examination also a certificate of their acquirements. The entire cost of the residence, including fees, may be reckoned in proportion to the demands or wants of the students, from 300 to 500 thalers a year. A full account of the arrangements of the Academy is given in a pamphlet, published by A. Marcus, at Bonn in 1864, entitled "The Agricultural Academy at Poppelsdorf," written by the the director, Dr. Hartstein.

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* A Prussian thaler is about 70 cents our money.

I learn from a copy of the Annual Report of the Royal Board of Agriculture for 1864, which was very kindly presented to me, while in Berlin, by the chairman, Herr Wehrmann, and to which I shall again refer, that the number of students in attendance at Poppelsdorf, during the summer Semester of 1864, was 84, and during the winter Semester of 1864–5, 85. The average attendance is stated to be 82, which is greater than at the other three Prussian academies of Eldena, Proskau, and Waldau. These various academies differ from each other somewhat in their arrangements, but your readers can form a pretty correct idea of them all, by the example which I have quoted.

It will be evident that these institutions are not mere manual labor schools, where the students literally work their way through, as here they are only required to perform such an amount of out-door labor as is necessary to acquaint themselves with the use of implements and machinery, the care of stock, the sowing and reaping of crops, and other matters relating to the farm. The remainder of their time is devoted to study and suitable recreation.

I mentioned to Prof. Freytag that each State in the Union had received a grant of lands from Congress for the express purpose of establishing such an institution in its midst, and alluded especially to New-York, where private munificence had stepped in to forward the object. I also suggested that they should subscribe for "THE CULTIVATOR," as I found no American journals in their reading room. J. L. T.

To Prevent Bulls Throwing Fences.

Fasten a button securely to each horn; then take some large annealed wire, make a loop large enough to pass a small rope through, and fasten it around the horn close to the button, one on each horn. Take a snap, such as are used to place in a bull's nose, put it in his nose, tie a small rope to the snap, pass it through the loop on each horn, and back again to the snap, and fasten securely. Mr. Bull will walk up to the fence, but will stop before he goes through, on account of a slight pressure on his proboscis. J. L.

CHOKED CATTLE.

D. Hyzer states in the Rural New-Yorker, that he has found that pouring half a pint of melted lard down the animal's throat, relieves it immediately, and without failure. Good managers, by the use of slicing machines, &c., will scarcely ever need such remedies; but sometimes, through the carelessness of hired men, such accidents will occur. We give the above remedy for what it is worth, commending it for trial.

HOW TO MAKE GRAPE WINE.

MESSRS. EDITORS—After the resolves of the United States Temperance Society, held last week at Saratoga Springs, it may be deemed disloyal to write anything by way of encouraging wine-making. I am not only a temperance, but a temperate man, and I may say too temperate to be intemperate on the subject of temperance. I therefore hold that a little pure wine from the grape may, on certain occasions, be useful as well as palatable.

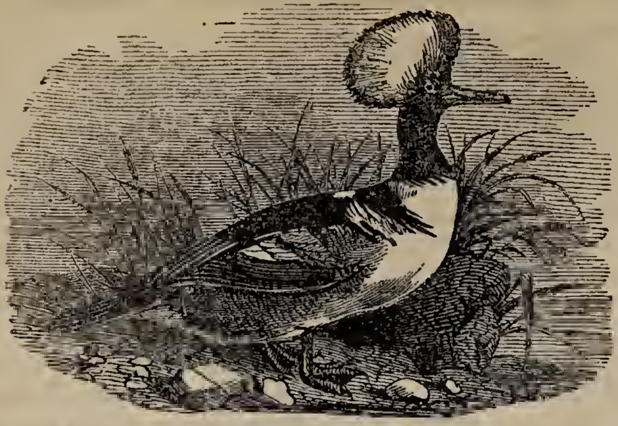
In making good wine the grape should be thoroughly ripened; let them remain longer on the vines than you would to eat or save for eating—as long as they will without dropping. Then pick them and spread them so as to have them thoroughly dried; no water should be on them or in the juice; then mash them so as not to break the pits. Put them into a vat or half hogshead, at a temperature of about 55 deg. I put in the cellar near a window, cover them over with boards, and stir the must once a day; the must acquires sweetness from the atmosphere. This is so with the apple. Take a hard, sour apple and mash it, and the next day you will find it has acquired sweetness, and is quite palatable. Those who make good cider know the importance of letting the pomace remain in the vat a few days. Well then, after you have got your must in the vat or tub, as you stir it daily watch to see when the vinous fermentation comes on; this is indicated by small white spots or bubbles, or by a vinous taste or smell. Then put into a cattle salt bag, and that into a rack to hold it in its place, then into the press Put then, into the cask, full if you can; lay an oil silk cloth over the bunghole, then a few thicknesses of cloth or leather, and on top of that some three or four bricks, so that the gas may flow out without letting in the air. Some weeks after that, say a month, rack it off. The Isabella grape this way will make a good Rhenish wine.

For a stronger article, and one which will keep without souring, from the Isabella grape, add one pound of good pure sugar to the gallon of must as soon as it is mashed, so as to have it ferment with the must, and I have added to 400 pounds of grapes a half bushel of ripe Siberian crab apples, to give more astringency, which improves it as a dry wine. But I would not venture more of the crab, fearing I should get too much of the malic acid. The tartaric acid is essential to good wine that comes from the grape. The malic acid makes cider. I do not know but by leaving the stems of the grape on it would give astringency enough, but I have taken them off, thinking they would absorb too much of the juice.

I have mashed by putting about 2 inches thick of grapes in the bottom of a tub and taking a mallet to crush them; then throw into the half-hogshead. I press by putting up two posts in the cellar, with several cross bars; then setting a half hogshead close up to them; in the half hogshead place two pieces of scantling, a board on top of them; then a frame with slats half an inch apart; into that the bag of must; then a follower, with pieces of scantling above; then a scantling 12 feet long as a lever, with the end in the upright frame resting on the scantling over the must as a fulcrum, and at the other end myself as long as that will cause the wine to run. Then hang on an old-fashioned furnace, such as was used in the kitchen for heating flats; then fill that with iron balls, stones, &c., so as to give a hard pressure. I have found the little cider mills not good for mashing, and ineffectual for pressing.

I intend to make a hand mill for mashing by two horizontal fluted rollers of wood turned with a crank. On the first opportunity I will send you a bottle of wine of that made by adding the crab apple.

Saratoga Co., N. Y. Z. A. LELAND.



HOODED MERGANSER --- *Lophodytes cucullatus.* Reich.

The bird which our plate represents is not well known to the majority of the readers of the Country Gentleman. We are sorry to state that comparatively little is known concerning it. Wilson contents himself with the statement that "the manners food, and places of resort of both, are very much alike," the other bird that he refers to being the Red Breasted Merganser, (*Mergus serrator.*)

The Hooded Merganser arrives on the rivers and lakes of the Southern and Western States early in the month of October. He comes from the north where he has raised his family, and is moving southward, owing to the increasing severity of the weather.

This species ranges the whole of the United States during the winter.

The Hooded Merganser is an accomplished diver and swimmer. In this respect he nearly equals the famous Loon (*Colymbus torquatus.*) They are so extremely vigilant while on the water, that if a gun be fired at them they hear it coming, and are under water, out of harm's way, before the deadly messenger arrives. Hunters never try to shoot them on the water, as they know that they would only be wasting their ammunition. They have been known to immerse their body under water, and, leaving their bill just above, remain among the weeds until the pursuit is given up.

The plumage of the Hooded Merganser is very handsome. The male requires three years to get his full plumage. The top-knot develops itself during the second, and the third is completing year.

According to Audubon, the Hooded Merganser breeds in holes of trees in the same manner as the Wood Duck does. He continues: "They dive as it were directly into their wooden burrows, where on a few dried weeds and feathers of different kinds, with a small quantity of down from the breast of the female, the eggs are deposited."

The female lays from five to eight eggs of a pure white color, but which soon become soiled by the feet of the parent bird. Two specimens of their eggs in my cabinet, which were presented by E. A. Samuels, Esq., of Boston, measure as follows:

Specimen No. 1: Length, 2 2-8 inches; Breadth, 1 6-8 inches.
do. do. 2: do. 2 3-8 do. do. 1 6-8 do.

They were collected near Parmachene Lake, Maine, and are of a pure white color, except where they are soiled by the feet of the parent bird. They are somewhat pointed, and are generally considered very rare. Before Mr. Samuels obtained them, we are not aware that any were in the collections of any individual or institution, excepting the Smithsonian Institution at Washington, D. C., which possessed a specimen that was cut from the ovary of the female bird. This is not the only service that Mr. Samuels has done, and we here take occasion to give him the praise that is his just reward.

[A. O.] J. P. NORRIS.

Clapp's Favorite Pear.

This new variety is yet but little known to cultivators at large, but the fine appearance of the specimens seen at pomological exhibitions, as well as their excellent quality, have given high promise of its value. Allowance should always be made for the greater attention in culture and management which new sorts for a time receive. We have, however, much hope of Clapp's Favorite. In a recent number of the Rural New Yorker, F. & L. Clapp, of Dorchester, brothers of the originator, and who, with the exception of Col. Wilder, are the only persons who have fruited it, state that it is several days earlier than the Bartlett, to which it is fully equal in size, and that the crop was disposed of last year, in the month of August, before any other pear of respectable size was ripe. They state also that the tree is not only vigorous, but proves extremely hardy—they think as much so as Flemish Beauty, which is well known to stand among the first in this respect. It is also stated to be a great bearer. If these points are sustained by further trial and in different places, it would prove one of the most valuable acquisitions of the day.

HARDY APPLES.

A Maine correspondent of the Rural New-Yorker, latitude 45 deg., gives the following list of very hardy sorts for that region: *Summer*—Red Astrachan. *Autumn*—Duchess Oldenburgh, Fameuse, Gravenstein. *Winter*—Pomme Grise, Blue Pearmain, Northern Spy, Yellow Bellflower, Ribston Pippin, Tallman Sweet.

CONCRETE BUILDINGS.

I find the article by A. L. L., (p. 331, last vol. Co. Gent.) interesting to many. If farmers can put up the different small out-buildings required about their premises with the materials found on almost all farms and with little work, and that only requiring ordinary laborers, in so durable a manner too as is represented, and so impervious to vermin, and to storm and injury by fire, it is a subject that should be amply explained.

Having lime, sand, sandstone and water convenient, I have thought of erecting some buildings in this way, proposing to screen the walls of one story, or one and a half, only by projecting eaves.

But on mixing some of the materials and setting the mixture out in boxes as moulds, I found after a month or two of very dry weather, that what should be concrete was not concreted, but fissured in all directions, and on turning it out of the boxes I had innumerable fragments instead of solid blocks.

Perhaps the dry weather caused too rapid a dessication, yet it is said that common mortar crystalizes best and becomes most firm, in dry places and dry weather. The lime was fresh and the sand nearly pure, but containing a little clay. The stone was broken sandstone, very irregular in shape.

Will A. L. L. of North Granby, Conn., or other experts in this art, please give details, and especial notes of any causes of failure? It will certainly be welcome and serviceable to very many. W. *Tyrone, Pa.*

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One pair of heels is sometimes worth two pair of hands.

SORE EYES.

Almost every person, during some period of his life, has been annoyed more or less with inflamed, diseased, or weak eyes. Many of them are made worse by the haphazard application of severe remedies. There are certain simple applications however, which can scarcely injure, and are nearly always relieving or beneficial. Among these, simple cold water takes a prominent rank. It is, however, often applied by washing or rubbing—the friction of which sometimes overbalances the remedy. A good way to apply it, when the apparatus is at hand, is by means of a fine jet of water, driven from a pipe through a finely perforated rose, so made as not to spread the water, but to throw the jets nearly parallel. In the absence of this a good way is to place two or three thicknesses of fine linen cloth a little larger than the eye, dipped in cold water, on the closed lids. If pain is felt in the ball, the addition of a tenth or a twentieth part of laudanum is relieving. But we have found no better way of applying any liquid to the eye, than to take it in a good sized teaspoon, and hold it in a level position up against the closed lid, the bowl of the spoon very nearly fitting the outside of the eye. In this way the eye may be washed without any friction or chafing whatever. If fine dust has passed into the eye, it may may be easily washed in this way, by opening and shutting the lid a few times, while within the spoon. Sometimes water containing a small portion of salt is found good for strengthening weak eyes, and this may be readily and comfortably applied to the open eye by means of the spoon just described.

The very Best Wax for Sealing Cans, Jars, &c.

One ounce of gum shellac, 1 ounce of beeswax and 18 ounces of rosin.

This cools instantly. You can dip pieces of strong domestic, in the fluid and press them over the tops of gallon jars, by putting your hands in cold water and then manipulating. For strawberries and blackberries, the former especially, common stone jars are much better than cans, causing them to retain both color and flavor. As I am said to have the best of canned fruit, I will detail my plan: Place the cans in hot water and keep them there until filled with fruit that has been allowed to come to a scald in syrup made to your taste with much or little sugar. Put on the covers, remove and and seal instantly. If bubbles arise on pressing the cover, drop a few drops of wax and press down until there are none. In five minutes you can place your jars where they are to remain, as the wax is as firm then as it ever will be. I think fruit much finer to have a little sugar put with it before canning, if no more than you would use on the table. It prevents the leathery look and feel that it has when none is used. This wax is also very fine to seal bottles of wine, &c., as it cools so intsantaneously.

I forgot to specify that the syrup in which the fruit is placed must be boiling at the time, and come to a boil again. All who have canned fruit know that the can must be filled with boiling syrup after the fruit has been filled in to the capacity of the can. R.

To Get Rid of Red Ants or any other Vermin, as Roaches, &c.

Daub a piece of thick brown paper with molasses, and then sprinkle with arsenic. Distribute around your closets, bins, drawers, &c., and in three or four days you will find that they have all disappeared. R.

Never praise nor dispraise any before you know them.

VARIETIES RUNNING OUT.

One of the oldest varieties of the apple is the celebrated English Golden Pippin. If varieties run out by old age, this should have absented itself long years ago. The London Gardener's Chronicle states that there is a tree of this variety in the celebrated nursery of Thomas Rivers, which is at least a century old. It bears small, scrubby fruit, scarcely larger than a walnut, representing the degenerated condition of this variety under ordinary or unfavorable conditions. This tree is on the English crab stock. Grafts were taken from this identical tree, inserted in Paradise stock, and submitted to good culture in an orchard house, when lo! the fruit became tripled in size, acquiring the richest golden color, and the choicest flavor. We have seen fine and fair specimens within a few years from the grounds of Chas. Downing of Newburgh, and have had equally fine ones from our own grounds.

Advantages of Grinding Corn in the Ear.

Messrs. Eds.—I see by perusing your columns, that it is still the opinion of some people, that corn cobs are injurious when fed to animals. Now I think there is ample proof to the contrary. What has been the feed of nearly all the cattle that have been fattened in the Western States since the country has been settled—I mean the winter feed? I answer, corn in the ear, often without husking. Well, do the cattle eat the cobs? Yes, nearly the whole of them; and I have not heard the first feeder say that he considered them in the least injurious to the cattle. Now if the cobs are not injurious when fed with the corn on them, it has to be proven that grinding them makes them so, which I think will be hard to do. But the question arises, how can they be ground? One of your correspondents, "Hawk-Eye," pronounces all the iron mills humbugs, but I perceive he is hard to please. He said in the same article that he denounces the mills, that the present race of horse-powers are unsteady and uncertain—the ordinary railroad powers are too severe on the team, and require too much oil. He calls for the help of our inventors to furnish something that can be depended on. Now I think he gives the inventors very poor encouragement. He appears to want a tread-wheel—I say deliver us from the best of them I have seen. I have an iron mill for grinding corn in the ear, which I have used for five years, which I think long enough to determine its merits. Instead of calling it a humbug, I pronounce it a complete success. We convert from six to ten bushels of ears of corn in an hour, into meal that we feed to chicks of two days old up to the ox of two thousand pounds, without any apparent bad effects.

We do not advocate the feeding of cob-meal so much for the nutritive matter contained in the cob, as the facility for getting the corn ground. For with the outlay of fifty or sixty dollars, a farmer can get a mill with which he can do his own grinding at his pleasure, saving the labor of shelling the corn, hauling perhaps several miles to mill, paying toll—the eighth part at least, and sometimes considerably more. I fatten from eight to twelve head of cattle every winter, with satisfactory returns; but I don't see how I could do without a Little Giant. S. F. *Gallia Co., O.*

THE CULTIVATOR.

ALBANY, N. Y., SEPTEMBER, 1865.

Rutgers' Scientific School.—The organization of this department in connection with Rutgers' College, New-Brunswick, N. J., to which institution the land grant fund of the State was appropriated, has been mentioned heretofore in our columns. At a meeting of the Trustees in June last, LUTHER H. TUCKER of Albany, was appointed to the professorship of Agriculture. This appointment has been accepted, provisionally, and in so far as the preparation of a preliminary course is concerned, to occupy some time during the next winter or spring terms—leaving a more permanent acceptance to the test of its compatibility with other engagements.

It will be the aim of the Trustees and Faculty to give the institution a practical character, and with the interest now awakened in Agricultural improvement in New-Jersey—a State itself favorably situated for the development of the highest and most profitable farming—there is every reason to anticipate a good attendance of students, and, we trust, a successful inauguration of the new department. Further information may be obtained by addressing Prof. GEO. H. COOK, New-Brunswick, N. J.

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Hunt's Fodder Cutter.—We have given this new machine a number of trials, along with some of the best cutters used in the country, and have been favorably impressed with its value. It appears to be inferior to none in its power of cutting with ease and rapidity, at the same time that its simplicity of construction, and freedom from liability to break, give it important advantages. It may be made to cut at any desired length, and is consequently well adapted to chaffing cornstalks, and is driven either by hand or horse power.

— To the above notice from our associate, we may add that Mr. HUNT has since had a trial of his machine at Albany, at which we were present, and the success of which fully bears out the foregoing statements. This invention will soon be advertised in our columns, when the public will know where it can be procured.

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Entomology.—The Entomological Society of Philadelphia, (whose publications we should be pleased to receive,) have issued a circular as to the management of that institution heretofore, and the funds now required to place it on a substantial and permanent basis. It appears that the lamented Dr. THOMAS B. WILSON, late President of the Academy of Natural Sciences, had given $5,000 to the general fund of the Entomological Society, and $5,000 more in trust toward the publication of its reports. These papers have been issued with the utmost economy—the members of the publication committee themselves performing without charge most of the labor of composition and presswork. The Society is located in a two story building, erected for and devoted to its purposes and uses, at No. 518 South Thirteenth Street, Philadelphia. The library, now including over 1,500 volumes on Entomology and a Cabinet of over 50,000 specimens of Insects, is well provided for in works on Entomological subjects, "and here again the active interest and great liberality of the late Dr. Wilson is particularly observable, for it is to his assistance that its completeness,—making it second to none in the United States in the number of valuable works on our particular department of science —is owing."

Dr. W. had intended himself to supply whatever deficiency there might be in meeting the annual cost of the Society's publications, but his death has deprived the committee of that resource, and they are now seeking to obtain donations towards this object from those disposed to encourage entomological investigations. A circular on the subject may be obtained by addressing the President, J. H. B. BLAND, at the Society's office as above, or E. T. CRESSON, chairman of the publication committee. There are also committees in New-York and Boston who will receive subscriptions.

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A Rara Avis.—A California correspondent sends us by mail a Chameleon—one of those animals as to the color of which there has been so much dispute, and which has the reputation among poets of "feeding on air," or like Shakspeare's toad, supporting itself on "the vapors of a dungeon." Our correspondent avers that he has known it to live five months in a trunk, without food or water, and he last year succeeded in sending one alive to a friend in Chicago, which actually survived several months after arrival.

Ours was not so lucky. The journey was too much for him. He started July 15th, and reached us Aug. 11th. Whether the supply of air was insufficient, or the jolting of the long coach ride (for we infer that the overland route was taken) proved too violent, or the pressure from without crushed his delicate organs—we cannot say. But his lustreless eye and flattened form at once showed that vitality had departed. He was not destined to know the cities of the East, and the curious glance of stranger eyes. Of his hues there is no longer room for argument, and as to food and moisture, whatever may have been the case before, never more will he again feel need of either. The odor of mortality clings to his remains, and we dismiss him with a sigh.

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Death of a Merino.—The Middlebury Register of the 9th learns "that Mr. Hammond's best ram, 'Gold Drop,' died on Sunday night. This sheep probably had a better reputation than any other that ever lived. Mr. Hammond could at any time for a year past have taken $10,000 for him. He was valued at $25,000. He will be sincerely mourned by all sheep-breeders at home and abroad. He was four years old."

The figures quoted above require no comment to show the point which the "sheep fever" of the past three or four years has reached. Without disputing the fact that the price named might have been taken for this ram, or that the valuation put upon him had a foundation in his actual earnings,—no sensible man can claim any basis on which either should rest, beyond the current fashion of the day, and a most exaggerated notion, industriously diffused through the community, of the merits of the sort of sheep of which the animal mentioned was an example. While such a mania lasts, paragraphs like the above attract comparatively little notice; when the mania is over, and people sit down to count the cost in the sober light of ultimate returns, these "fevers" and those who take part in inciting them, appear and are commented on, in a very different way.

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Thomas's Pronouncing Medical Dictionary.—This new work, from the press of Lippincott & Co., of Philadelphia, is one of the most complete and compact works of the kind that we have met with. The high reputation of its author, established by his Universal Pronouncing Gazetteer, and other kindred works, imparts much value to the pronouncing department,—which, embracing all the more common botanical and other scientific names, renders it extremely convenient to students and readers generally. Its etymologies are interesting and valuable. In the words of Dr. D. H. AGNEW, "We have never seen more industry, research and scholarship, compressed in so small a compass—and know of no book which combines so pre-eminently, thoroughness and brevity." We recommend this work to all students in medicine as well as in science.

Obituary.—Henry P. Byram, formerly one of the editors of the Valley Farmer, and for many years an occasional correspondent of our own, died at Sag Harbor, Long Island, August 6th, in the 62d year of his age. The event was not an unexpected one to himself or to his friends, as he had long been a sufferer, especially from a bronchial disease. During the most active part of his life, Mr. B. was a resident of Kentucky, where, both by the use of his pen, and by the introduction of improved machinery, he labored with great benefit to the agricultural interests of the Southwest. He was a clear, ready, and practical writer, and a good observer and thinker. Notwithstanding the protracted period spent in other States, he still looked back to his birthplace as a home, and when by loss of health he felt himself incapacitated for much farther exertion, he retired thither to pass his last years. He had almost begun to hope that this change would bring recovery with it, when in 1862, having been invited to witness a governmental trial of artillery, the premature explosion of a shell fractured his kneejoint, rendering amputation necessary. Contrary to all expectation he survived, and, for more than two years and a half since, the natural vigor of his constitution had been withstanding the gradual but certain approach of death.

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Infantado versus Paular.—

"A branch of Mr. Atwood's family of Humphreys' Merinos was established in Vermont, which has become much more numerous than his own. The prominent founder of this new family was Edwin Hammond of Middlebury. * * * Mr. Hammond has kept the Humphreys blood absolutely pure down to the present day. * * * The only question at issue is, 'was Col. Humphreys' sheep pure *Infantado* Merinos?' We have already expressed our *utter* indifference in regard to this fact, in itself considered. * * * The name Infantado appearing to be acceptable to a large proportion of the owners of the highly improved sheep of this family, we * * * now proceed to give the 'scattering hints and circumstances' which led to its adoption."

Our attention is called to a long editorial in the Sheep Husbandry Department of the last Rural New-Yorker, from which the above extract is taken. And we are reminded thereby that the original of a somewhat interesting certificate was lately shown us, a copy of which may be worth the space it will occupy here:

"Middlebury, Vt., *September* 23, 1847.

"This may certify that I have this day sold to D. P. Pond of Cornwall, State aforesaid, six full blood Merino ewes, four of them being of the age of one year: and one of them bearing the age of two years. *Said sheep are of the* Paular *breed*, a part of them being purchased by myself and R. P. Hall, of Stephen Atwood of Connecticut: and the other portion of said ewes were raised by me, and are precisely the same in pedigree as those purchased of Mr. Atwood, as I bred them from said Atwood sheep. I will here insert a certificate which I obtained of Mr. Atwood: and reads as follows:

"'Woodbury, *January 27th*, 1844,
'*Litchfield Co., State of Connecticut.*

"'This may certify that Edwin Hammond and R. P. Hall of Addison County, State of Vermont, have this day purchased of me three full-blood Merino bucks, and of me and others twenty-seven full-blood Merino ewes, *descendants from my flock of the* Paular *breed, which originated from the celebrated flock imported by Colonel* Humphrey of Derby, Newhaven County, State of Connecticut. Stephen Atwood.'

(Signed) "EDWIN HAMMOND."

Our contemporary would be the last to admit the idea that the language of the above certificates could have been loosely or thoughtlessly employed, or upon incorrect or insufficient information on the part of the writers. We were told but a week or two ago, in the same columns, with reference to the pedigrees of certain other Merinos, that if Mr. Cock delivered to Mr. Bedell a particular certificate "as giving the pedigree of the sheep sold to him, which pedigree represented the sheep to be pure Paulars, and they were not pure Paulars, then *Cock was a liar and a swindler.*" It may be very gratifying to verify so completely a "belief" that "the name Infantado" is unmistakably "the correct one" for the Hammond and Atwood sheep—but can it be altogether agreeable to the parties immediately concerned? They are again and again assured, however, in the language of Mr. Toots, that "*it's of no consequence*"—although, to be sure, a gentleman and a patriot like Col. Humphreys would never have "sent round his 'most respectable' agent to pick up second-rate sheep" like the Paulars.

It is true that about twenty years ago "the name *Paular*" happened "to be acceptable to a large proportion of the owners of the highly improved sheep of this family," and—"the Humphreys blood" having been kept "absolutely pure down to the present day," and consequently being pretty much the same thing in 1813, in 1847, and in 1865—the question once more recurs, "*was* these sheep pure Infantado Merinos," after all? *Our* "utter indifference in regard to this fact," need not be expressed. It is for the gentlemen whose names and credit are involved, to settle the matter with the Rural New-Yorker—unless they, too, take the Toots view of the case, that "it's of no consequence!"

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A Veteran Wool-Grower.O—ur venerable correspondent and subscriber, N. P. Atkinson, Esq., of West Virginia, mentions in a recent note, that at the commencement of the war of 1812, having been forced to leave Canada, where he was then in business at Montreal, in company with Mr. W. F. Peterson, they came to Baltimore, and seeing in a Washington paper an advertisement of Spanish sheep for sale by the importer, they went thither and purchased fifty-two sheep for the sum of $1,850. These sheep were first taken by Messrs. Atkinson and Peterson to Washington county, Pennsylvania, but after two years' residence there, Mr. A. removed to the vicinity of Wheeling, where he has since been engaged in wool-growing—a period of about half-a-century. Mr. A. says: "If any considerable portion of the farming community had embraced the wool business with the same forecast and perseverance, our supply at this time would have been of the most ample character both as to quantity and quality. What makes our sheep enterprise more of an out of the way concern, is the fact that we were neither of us raised farmers. As a general rule pecuniary considerations afford the motive power leading to new enterprises, and while we were not singular in this, yet there were other considerations of great weight—we saw by the eye of faith the end from the beginning, or, in other words, what has really transpired in the woolen department of our manufactures for the last fifty years. It is a matter of regret that with our pre-eminent facilities for raising sheep, our supply of wool should still fall so very much below the national demand."

Mr. A. adds that he has passed his eightieth year—a fact we should not have suspected either from his manuscript or from his facility of expression.

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Shares' Harrow.—This implement having been inquired about, a correspondent writes to second our suggestion that the teeth should be of steel instead of cast iron. He says it will do more execution in passing over the ground once than a common harrow in twice. We understood some time ago that a new process of hardening iron castings to render them nearly equal to steel, at much less cost, was about to be introduced, and that a trial of it would be made with Share's harrow. The result we have not learned.

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A New Grape.—A correspondent sends the following:—"Mr. James Smith of Des Moines, Iowa, has originated a grape which bids fair to make some noise in the world, when it is propagated sufficiently for distribution. It is about as good as the Concord, as far as quality is concerned, is perfectly hardy where the mercury sinks to —30°, and ripens eight days in advance of the Hartford Prolific. He has christened it the Florence."

Agricultural Education—Good Advice from High Authority.—Mr. Secretary Klippart, who is now travelling in Europe, has written a letter to the Ohio State Board of Agriculture, which we find in the columns of the last Ohio Farmer. It contains his account of an interview with Baron Von Liebig on the subject of Agricultural Education; and the advice given not only coincides with the views we have always entertained, but applies to the fullest extent, both to our institutions of learning generally, and especially to those in process of organization for Agricultural purposes. Liebig is represented as saying:

"In Ohio you do not want to build a *palace* for an agricultural school. In America you spend too much money in putting up your educational buildings, and then starve your professors. I learn that you put up a very grand building in your city of Columbus, called the 'Starling Medical College;' I have a picture of it; I am told it cost some $70,000 or $75,000, and now you are starving the professors in it. You did the same in Cleveland and Cincinnati; then I am told you built *two* universities in Ohio, and now the professors can barely live on the salary you pay—the consequence is that these schools, colleges or universities must run down. There is no place in the whole world where knowledge can make so much money as in America; therefore your *best* men will not become teachers or professors—simply because they can make more money out of something else, and they naturally apply their talent and ability where it pays the best. No man will engage in an educational course of life *for life*, on a salary of $1,200 or $1,500 a year, when by applying the same ability in some other pursuit, he can make $4,000 to $5,000 a year. Hence you have no *first class professors* in all America, but you have instead, first class business men, first class mechanics, and managers of large and colossal establishments. Now I am afraid that out of your large fund of money you will think that you must at least build another 'Starling College,' or even a yet more expensive establishment. You want an ordinary good building, but you don't want the twentieth part there is at Hohenheim. Then, too, I am afraid that after you have your buildings, you will employ third or fourth rate professors, and you will find that your establishment will languish, and your standard of attainments will be very low. These are your great dangers. On the other hand, with an ordinary and convenient building, *first rate professors and well paid*, you may rest assured that Ohio will take high rank in the agricultural world."

On the subject of managing the Farm connected with an Agricultural College, Liebig expressed himself as follows:

"The manager or director of the establishment should be a man thoroughly versed in scientific agriculture; because the experimental farm is for the purpose of making experiments *purely*, and not for the purpose of maintaining or supporting the school. The scientific director can see that the proper experiments are made, and the experiments should always be made in direct consideration of being put into general practice; that is, they should all tend to producing the greatest crops at the least expense and without exhausting the soil, and of course be of such a character that all the farmers may avail themselves of the methods; because if your experiments cost more than the crops amount to, nobody will repeat them, and you have made no advance in agriculture; although you may have solved a problem or ascertained a fact, yet for agriculture generally it is of no value. If, on the other hand, your director is a practical man only, and not a scientific man, he is only repeating on the experimental farm what is perhaps being done on every well-regulated farm in the State; and therefore you are making no progress. You can never persuade a practical director to make proper experiments."

"You don't want much land," continues Liebig; "a few hundred acres is all sufficient for all manner of experiments, and you must allow me to repeat, you want to make *experiments* only—you don't want to teach a specific system of model farming, for many reasons; firstly, not one student perhaps can get a farm precisely like your model farm: he may not be able to get so much grass land or so much upland, or may be unable to have farm buildings precisely like the model ones; then what good does your model do when nobody can copy it?—and to copy a part of the model impresses the ignorant that the whole is copied, and the results in copying a part cannot be as great or as beneficial materially as if the whole were copied, and yet the moral effect is that that part represents the whole; therefore I would not advise model farming. Hohenheim set out with the idea of being a model farm, when there were not half-a-dozen estates of the same extent or geological structure in all Wurtemburg; and as a matter of course it must fail as a model, for nobody but kings or princes could copy it, and small farms could not even attempt it. Confine your institution to experiments, and as for practice, you have every day at your service the practice of the whole State of Ohio. Let the students visit the best farms in the State, and see how things are managed, and it will do them more good than if you undertake to carry out the model idea. Now when you get home, pray do not misrepresent this idea. I want you to make experiments, not simply to show what *can* be done, but make experiments to show what can be done *profitably*, and what may be done by any intelligent farmer. Of course you cannot expect to accomplish much for the present generation of farmers, but the seeds you sow will be reaped by the coming and future generations."

Obituary.—F. K. Phœnix writes us under date of Bloomington, Ill., July 20:—"Our most worthy and well beloved C. R. Overman, died yesterday morning after an illness of but a few days, with inflammation of brain and stomach. One of the earliest and most active of our Illinois nurserymen, whom to know was to love—his earthly record is closed up, making a sad, irreparable breach in our old nurserymen's phalanx, hitherto apparently impregnable. Bitter the cup to his own large family circle, and sore the loss to American, especially Western, Horticulture. But the Good Father knoweth best."

Fruit Prospects in Western New-York.—A tour through portions of the best fruit producing districts of Western New-York, proves that the crop this season will fall far below the usual yield, and will be scarcely sufficient for the home supply.

Two-thirds of the apple trees bear little or no fruit, while a small portion produce a moderate yield. In consequence of the abundance of rain this summer, and moderate fruiting of the trees, the quality of fruit will be excellent, and return large profits to those who are so fortunate as to possess large orchards which have been properly cared for.

Peaches are also very scarce, and consumers must depend on New-Jersey and Delaware for their supply this season.

The orchard caterpillar has had much to do in causing the short crop this season, and unless a war of extermination is commenced now, and kept up until the time they commence and end their ravages, there will be less fruit next year than there is this. A close examination of many orchards, discloses the fact of the existence of immense numbers of the cocoons of the orchard caterpillar. Let others satisfy themselves of this fact by a like examination, and act accordingly if they desire to preserve either fruit or trees. Even on young apple trees planted last spring, and which have made only about a foot of growth, I have found as many as nine cocoons; each of which would produce a colony of caterpillars that would defoliate the whole tree if unmolested; and on old bearing trees they exist in incredible numbers, in fact almost too numerous to count, and I will predict that unless their destruction is attended to, we shall have but a small crop of fruit the coming season; and their continued attacks must eventually destroy the trees, as where they are stripped of their leaves for a number of years in succession, and put out a late growth the latter part of summer and fall, they cannot certainly withstand our severe winters as well as the natural early growth, which ripens and matures its wood before the severe frosts occur. *.

Foreign Notices.

American Implements.—The Royal Agricultural Society of England, as our readers are aware, have adopted the system of trials in the field each year of certain kinds of agricultural machinery. Reapers and mowers had their turn at the Plymouth meeting just held, and the prize awards are certainly gratifying to American pride—as will be seen by the following list:

MOWING MACHINES—FOR TWO HORSES.

1. W. A. Wood, London, (and Hoosick Falls, N. Y.).....	£10.
2. R. Hornsby & Sons, Grantham, ...	8.
3. H. Kearsley, Ripon,...	7.

COMBINED REAPERS AND MOWERS.

1. R. Hornsby & Sons,........................	£8.
2. W. A. Wood, ...	7.
3. A. C. Bamlet, Thirsk,........................	5.

REAPING MACHINES—FOR ONE HORSE.

1. W. A. Wood........................	£9.
2. Samuelson & Co., Banbury,........................	6.
3. R. Hornsby & Sons, ...	5.

REAPING MACHINES—FOR TWO HORSES.

1. Hornsby & Sons,........................	£10.
2, and 3. Hornsby & Sons, and Picksley, Sims & Co., *each*	5.
1. R. Hornsby & Sons, for self-acting swathe-delivery reaper,........................	£25.
2. Samuelson & Co., self-raking reaper, ...	15.

The editor of the Irish Farmers' Gazette remarks: “Although we place no faith in the mode of trying the mowing and reaping machines by the dynamometer, from the excellence of the work produced we are quite satisfied with the awards given the several machines in these classes. Wood's, it will be observed, has justified the results so frequently given in our Irish trials, taking first prize in the trial for mowers, and in that for one-horse reapers, and second for his combined machine.”

Mr. Cranston exhibited a hay maker or tedder, which from the description we suppose to be of Bullard's patent, but it does not seem to have received any award. An American churn of the Jebb patent, appears to have attracted much attention.

Subsoiling.—The deepening of the soil produced by this process, is often especially advantageous on those lands in which the first opening up of the unhealthy substratum is temporarily injurious. MECHI says that this danger should be met by an increased supply of manures for two or three years, and adds:

> Of course by disturbing and intermixing with the cultivated surface, it naturally robs it of part of its goodness, and imparts to it a portion of its poverty. It often happens, on bringing up the subsoil, a crop of weeds grow up from long-buried seeds. I therefore strongly advise a root crop after subsoiling, because then the land is well manured, often hoed, and when the crop is removed, a vast quantity of strong roots remain in the subsoil, and afford food for the ensuing crop. All deep tap-rooted crops do well on newly subsoiled land, such as beans, roots and rape; but I prefer the land becoming more solidified for white crops, particularly wheat. I consider it profitable to subsoil or trench-plow for every root crop, even if you grow them alternately with wheat; it only adds a little trifle to the expense, and I am sure it makes more than double that difference in the quantity of roots.

A Merited Honor.—With pleasure we note that the farmers of East Norfolk have requested Mr. CLARE SEWELL READ to stand for Parliament, and subscribed liberally toward his election expenses. Mr. R. is an agricultural writer of much prominence, and we cherish a lively remembrance of the kindness he manifested in forwarding the objects of our visit in the Eastern Counties some years ago. To his attentions we were indebted for much information at Norwich, as well as for an instructive visit at his residence at “Plumstead,” an account of which was given in the COUNTRY GENTLEMAN of May 3, 1860.

It is highly creditable to the farmers and proprietors of Great Britain that they are so ready to acknowledge the services of those who labor to promote the agriculture of the country. Mr. CAIRD, and many more who might be named, have owed their seats in Parliament largely to this cause; while testimonials of a very valuable kind are of almost constant occurrence—witness those to the memory of JONAS WEBB and FOWLER the inventor of the steam plow, since their death, and, during life, the munificent present of a complete laboratory some years ago to J. B. LAWES, Esq.,—the project now in successful progress to buy the farm of Tiptree as a gift for Mr. MECHI,—the testimonial within a year or two to the editors of the Irish Farmers' Gazette, and a long list of similar acknowledgments quite as creditable to the donors as to the recipients of the honor.

Small Pox in Sheep.—The Loudon Field mentions a new outbreak of this disease:

> “A subject which was brought before the last meeting of the Royal Agricultural Society by Mr. Simonds cannot fail to produce, under present circumstances, an unwelcome impression. Mr. Simonds stated, for the information of the council, that another outbreak of small pox in sheep has just taken place; this has occurred on the Sussex downs, amidst large flocks of sheep, midway between Lewes and Newhaven. The Professor visited the flock, comprising six hundred ewes and lambs, and among them were found sixty-five infected with the disease. This is most unwelcome news, for with the meat markets ruling at present high prices, should the infection spread it will indeed become a national calamity. In our last number we pointed out that there was a fearful typhoid visitation among the pigs, and with this disease in sheep superadded, the future prospects of meat supply seem rather hazardous. We can only hope that by the experience gained during the former appearance of the disease, it may be arrested in time to prevent farther damage, and thus preserve our flocks for our use in due season.”

From other sources we learn that official measures have been taken to prevent the spread of the disease, as appears by the following notification concerning it published in the Loudon Gazette:—“In pursuance of powers contained in the Acts to prevent the spreading of contagious or infectious disorders among sheep, cattle and other animals, the Lords of the Privy Council have issued an order regulating the removal of sheep or lambs to or from the parish of Southease, near Newhaven, Sussex, where the sheep-pox, or variola ovina, now prevails.”

Farmers for Office.—Another distinguished farmer standing for Parliament in the recent British elections, was Mr. GEORGE HOPE, of Fenton Barns, East Lothian,—a gentleman of the highest standing and a most successful agriculturist. Although unsuccessful in the contest, his competitor, Lord Elcho, having been backed by the aristocracy of the district, Mr. Hope received a most creditable support, and will lose nothing by his defeat. After the close of the poll at Haddington, both candidates briefly addressed the crowd, Mr. H. being received with cheers and enthusiasm, while Lord Elcho met with the constant interruption of hisses and insulting cries.

Thinning Root Crops.—In an interesting article on the “later stages of root crop culture,” the Scottish Farmer insists upon the importance of careful and thorough thinning out of the superfluous plants. To the proper performance of this operation it ascribes much of the difference between a good crop and a bad one. “Three points, at least, demand attention; first, the strongest plant, if possible, ought to be left, while the weakest should be cleared away; secondly, each plant should have the maximum space of soil to develop its bulb in; and, thirdly, no two plants should be left together to interfere with the individual growth of each.”

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Wool in Ohio.—A friend writes us from Ohio under date of June 27: “Wool sold the past week in several places in Ohio for 70 cents! We think the Rubicon is won!! Our people still continue as firm as ever in their views of the future.”

Inquiries and Answers.

Guano.—How much guano should be sown per acre on oats where clover seed is sown, and what effect would it be likely to produce on both the oats and the *clover*? Would it insure a "*catch*" on light dry soil? Would it be well to sow guano with winter rye, where clover will be sowed in the spring, and, if so, how much on poor soil? What is guano worth at present per hundred or ton? E. R. *Otsego Co.*—[From three to five hundred pounds per acre is the usual amount of guano. Unless sown just before a long rain it would be best to harrow it in. A top dressing of common fine manure is better to insure germination or a "catch,"—the guano only promoting the growth of the young plants after they have started. Guano promotes the growth of all crops benefitted by common manure; but its influence is not permanent. We do not know the present price of guano.]

Bone Dust.—1. When is the best time to apply bone dust to meadows—spring or fall,—where grass is running out? 2. Is there a machine for sowing bone dust or lime; if there is, where can it be found? 3. Should bone dust be applied raw, or mixed with sulphuric acid? S. D. F. [Bone dust being a slowly operating manure, it is not essential at what time in the year it is sown. It must be harrowed or otherwise mixed with the soil. Seymour's broadcast sower, or other similar machines, will doubtless answer the purpose, but we cannot inform our correspondent where it can be obtained. Bickford & Huffman's Wheat Drill, made at Macedon, N. Y., sows concentrated manures with the seed. Bone dust, mixed properly with sulphuric acid, becomes a more powerful manure, but less permanent.]

Cows Milking Hard.—I have a cow, a valuable animal that milks hard, also her teats are covered with warts. Can you tell me through the volumes of the CULTIVATOR of a remedy for either? C. W. Y. [Cows frequently milk hard in consequence of too small a perforation in the outer skin, and the difficulty may be often removed by introducing a penknife and making it slightly larger, sometimes by thrusting in a small straw, or a very small quill, and allowing the milk to run for a few times, will enlarge the orifice. In other cases a strong handed milker, causing a rapid flow, will accomplish the same purpose—the ends being previously softened in warm water. We cannot state the best way for removing the warts.]

Corn on Sward.—I have a piece of green sward which is intended for a crop of corn next season. How should it be managed? L. R. [If a top-dressing of manure, even if a moderate one, could be applied to the grass any time the coming autumn, or even early in winter, it will much increase the amount of the crop by soaking into the soil. Next spring a short time before planting, invert the sod evenly and perfectly, roll if necessary, and harrow it, and plant corn. If a Shares' harrow could be procured, it would be useful, as it operates at the same time both as a roller and harrow, and mellows the soil to a greater depth.]

Butter Making.—J. N. G., *Taneytown, Md.*, would like to know where "a good butter separator" can be procured—also to have "a good receipt for making and packing butter." If by the former a butter worker is intended, we know of none that has come into very general use; there is one made at Philadelphia, about which he could address Paschal Morris for information, which has the reputation of a good machine. As to butter making, numerous articles may be found in our back volumes, and many valuable suggestions in the volumes of RURAL AFFAIRS, [3 vols. $1.50 each.]

Wheat on Timothy Sod.—Will wheat do well sowed on a timothy sod—turned under after the hay is cut and sowed on the sod in the fall and harrowed in? C. F. S. *Ohio.* [If the sod is turned over deeply and laid flat, and thoroughly harrowed, (best with a Shares' harrow,) with the addition of a good top-dressing of fine manure, it will probably succeed well. If the soil is quite heavy, it may not be sufficiently loose, unless there is clover mixed with the timothy—clover being one of the best looseners for heavy soils.]

Blackberry.—Should not the Rochelle be shortened-in, in the fall, and when the old ones are removed? B. [The best way to shorten-in is to pinch in early in summer, thus preventing the long growth which would otherwise take place, and making stout, compact, snug bushes. If allowed to grow their full length, we would not cut them back in autumn, but leave them till spring, as all severe pruning renders trees and shrubs tenderer. If, however, they were cut back now, before the close of summer, they might become sufficiently matured and hardened.]

Lime in Compost.—Would you put in lime with muck, in compost with stable and slaughter house manure, or spread the lime over the fields alone, and at what season? T. H. B. [We prefer mixing the lime with the compost, as in this way it becomes more intimately diffused by the time it is applied to the soil—about one-twentieth or one-thirtieth the bulk of the compost.]

Work on Small Fruits.—Can you tell me what books to procure, or where to look for brief but reliable information as to the planting and cultivation especially of strawberries and grapes, but also of gooseberries, blackberries, currants, and raspberries? Living in the country, engrossed during the most of the day by my business, I am anxious to relieve the pressure of business engagements by devoting a portion of my time to the cultivation of fruits. LEX. [Fuller's treatise on the Grape is one of the best, and may be obtained at this Office—price $1.50. The first volume of "Rural Affairs," also the Illustrated Annual Register for 1865, contain much information in relation to the management of other small fruits.]

Tanning Sheep Skins with the Wool on.—I have at some time or other seen in the Co. GENT. a recipe for tanning sheep skins with the wool on. If you have it at hand please republish it, and you will confer a great benefit on many of your subscribers. J. O. *Frederick Co., Md.* ["Take one tablespoonful of alum and two of saltpetre; pulverize well and mix together thoroughly. Sprinkle this powder upon the flesh side of the skin and fold together with the wool out; hang up in a cool place. In two or three days, as soon as dry, take down, scrape the flesh side with a blunt edged knife till clean. This completes the process. Such skins make excellent saddle covers."

Cows Calving in Autumn.—Wishing to have about 40 cows calve in October instead of April, (for the purpose of selling milk,) I would like to know if there is much danger of their not being in season in the month of January, in a Canadian winter, if protected by warm stables? Perhaps some Canadian, or other obliging farmer, may have made the experiment, and will be kind enough to publish it. L. WELLS. *Brome Co., C. E.*

Horse Radish.—Your correspondent from Chicago, Ill., wants to know how to kill horse radish. He can do it every time, by planting turnips or cabbage, and keeping the earth well worked with the *hoe*, for not more than one or two years. S. W. S.

Snap Dragon.—Can you or some of your numerous readers inform me how to effectually destroy the noxious weed called snap dragon. It grows to some extent in my neighborhood, and I would give my neighbors a helping hand to desroy it and keep it from spreading. O. B. *Fondulac Co., Wis.*

Wine Making.—Please insert in your CULTIVATOR, a receipt for making grape wine and brandy. D. E. W. *Milton, Del.* [We are promised an article on wine-making from a gentleman of considerable experience. In the meantime we give the following from W. O. Hickok of Harrisburgh, Pa. "Pick the grapes off the stems when fully ripe, rejecting the bad ones. Pass them through the wine mill to tear open the skins, but not to bruise the pulp. Press moderately, then get all that remains in the must to make brandy or an inferior sour wine of. Strain and fill into clean barrels; then insert a bent tube tight in the bung, and let the lower (outside) end rest under the surace of water in a bucket, so that while all the gas shall escape, the air will not get into the wine. When it has done fermenting, rack it off into clean barrels, bung it up and set in a cool place—bottle it in a few months. The great secret of making good wine is to select only the best grapes, and not press out the sour portion of the pulp. Nothing is here said about the numerous mixtures of water, sugar and grape juice which are frequently concocted, and sold under the name of wine, but only to the pure juice of the grape, properly fermented."

Wheat—Peavines, &c.—On a field I have a crop of peas growing; they will not ripen in time to harvest and prepare the ground for wheat this fall. How would it do to plow the green vines under? Some tell me they sour the land, and injure the wheat crop, others thought it would be equal to a good dressing with manure. Now you who have tried it or known it to be done, please communicate the result at your earliest convenience. Farther, I have fine barnyard manure which I wish to apply, and seed down with timothy. Would not a top-dressing, if dry weather, injure the "catch" of the timothy seed? And here comes the question in regard to the amount of grass seed it is best to sow? In this section we think six quarts per acre good seeding, especially if clover is sown in the spring. In the CO. GENT. I often see statements of correspondents sowing half a bushel per acre; this is more liberal than I have ever known to be done. and wish your views if profitable or otherwise? One more question, brother Englishmen. has the horse bean, so extensively grown and fed in England, ever been raised with profit in this country? J. S.

Newfane, N. Y.

Stump Machines.—Will you please give the subscribers to "THE CULTIVATOR," an article on stump machines—the benefits, the different kinds, the prices, and where they can be had. and whether patented or not? I have no doubt an article of the kind would be of great benefit to a number of your subscribers at this time. W. H. LEASE. [There is no subject on which we have more frequent inquiries than this, and no kind of machines less advertised than stump-pullers. If such of our correspondents as live in newly cleared districts, will give us the desired information in relation to the different machines they have tried and used, stating concisely the name and character of the machine, number, size and kind of stumps pulled in a day, with amount of team and number of hands required, also price and durability of machine, they would doubtless confer a favor on many of our readers.. Willis' Stump-Puller, advertised by R. H. ALLEN & Co., 189 Water-st., New-York, is one, we believe, of the best machines, in the country.]

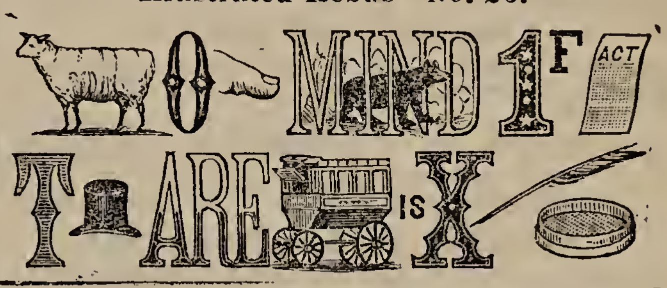
Killing Briers.—Some of my neighbors are very much troubled with what they call "dew berry vines," on their farms—a small running vine like a brier, but it does grow tall like a brier. but the *fruit* is similar. Whole fields are covered with it, and it chokes out all kinds of small grain—wheat, oats, barley, etc. How can it be destroyed? N. P. FLOREL. *Jennings, Ind.* [We have had no experience with this plant as a weed, but a universal remedy applies in all cases where practicable, namely, *smothering*—as no plant can live a few months even when it cannot breathe through its leaves. Doubtless successive deep plowings often enough to prevent the formation of leaves above ground, as we have often practiced with the Canada thistle, would completely destroy them in a single season. A crop of buckwheat, which densely shades the ground, preceded by two or three good plowings, would probably tend to destroy the weed. Or corn sown in drills for fodder, at the rate of two or three bushels per acre, and cultivated two or three times, would be useful. But to be completely effectual the whole surface must be kept entirely clear of growth.]

Ice-House.—I have a bank of earth just in rear of my house, some 6 or 8 feet in height. I think of digging out a space 10 or 12 feet square, and stoning up for an ice-house. I thought of laying a dry wall, and point and face with a coarse mortar. Would not ice keep nicely in such a place, and as I wish it proof against rats, would it answer a good purpose to mix some *water-lime* with common lime for mortar? I think I could make a very handy and convenient ice-house, as I could fill from bank in rear, and take out from front side. C. P. BATES. [An ice-house may be built in the mode proposed provided thorough drainage is furnished at the bottom, with the perfect exclusion of air from below, and free ventilation allowed at the top, so that external air may pass freely. If there is no inner boarding provided, so as to leave a space of 8 inches to a foot for filling with sawdust, it will be necessary to build the ice in a square mass inside, and ram in sawdust between the ice and the outer walls. There appears to be no object in excluding rats, as they do not eat ice. The best arrangement for keeping ice that we have ever found, is a house built of wood above ground, described and illustrated on page 23 of ILLUSTRATED ANNUAL REGISTER for 1864.]

Heavy Soils.—I wish to make the inquiry as to the probable cause, and of a peculiarity in the soil of my garden. It has been used as such three years. Before that time was occupied by a barn and barn-yard; is a strong soil, and bears well, its only fault being that it bakes very badly, and of course becomes dry and hard. The soil in the vicinity is not at all of this kind, being loose, friable, and easily worked. It is probably underlaid by a ledge, (but not very near the surface,) as one crops out at a short distance. Can you or any of your readers give me any information on the subject, and also whether the soil can be made mellow and friable as a garden should be. I also wish to know whether you have any receipt for removing spots of mildew. ALEX. WELLS. *Deerfield, N. H.* [There is probably an unusual amount of clay, and perhaps not sufficient drainage. causing the soil to become very wet in spring and to bake subsequently. If this is the case, thorough draining will make it gradually more friable, as the subsoil becomes slowly traversed with cracks and seams. In addition to this, draw on a thick coating of clear sand, if to be had, and work it in. This makes a permanent improvement which never diminishes or wears out. Next to this, coarse manure or chopped straw will render the soil lighter for a time. Enriching and good cultivation, by inducing the extension of roots, will always render a heavy soil looser. We have never found any efficient remedy for the removal of mildew from clothes, although time, use and washing will gradually lessen it.]

Transplanting Evergreens.—Will you inform us through your valuable paper, when is the best time in the season for transplanting the Balsam and other evergreen trees? J. C. W. [The best time for transplanting all evergreens is in the spring of the year, just before or about the time they commence growing. Autumn does nearly as well, if they are perfectly hardy, and are protected from severe winds, and have the surface of the soil mellowed in spring. Sometimes they succeed well when removed in summer just as the growth ceases. Trees growing well cannot be removed with a certainty of success without taking a considerable mass of earth with the roots, and with this care they will never fail. They may be removed at midsummer, if earth enough is carried with them.]

Illustrated Rebus---No. 26.



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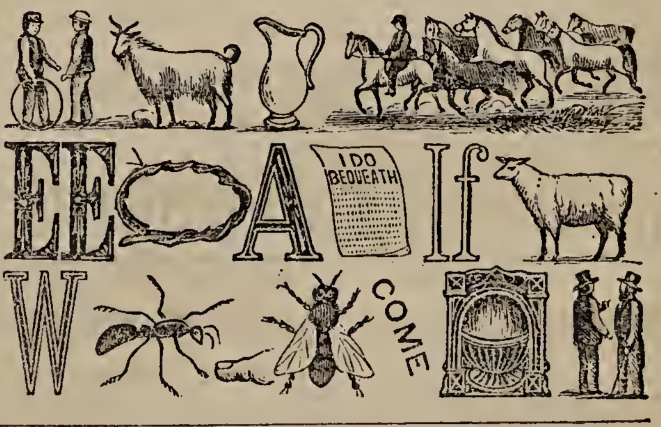
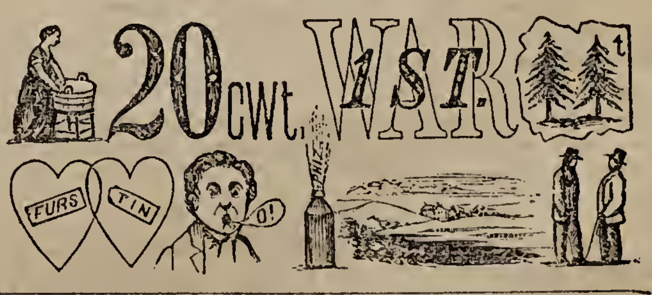


Illustrated Rebus---No. 28.



ANSWERS TO ILLUSTRATED REBUSES. — No. 23. Pleas-ant *words* R (are) as h-on-i (honey) combs-weet II (to) the solo (soul) and heatlh tooth-e (to the) bones. No. 24. "A little leaven ('leven) leaveneth ('leventh) the whole (hole) lump." No. 25.—"A wise son makes a glad father"—a w-eyes-on-may k's e-gg-lad fat-*her*.

GRAPEVINES.

Delaware, Concord, Diana & Hartford Prolific.

We have growing for sale a large stock of the above varieties of superior quality, from long cuttings, and layers from bearing vines. Also IONA, ISRAELLA, ADIRONDACK, &c.

We make the propagation of the grape a speciality, and our vines have uniformly given excellent satisfaction. Send for Price List.

I. H. BABCOCK & CO.,
Aug. 17—w2t. Lockport, N. Y.

SEEDS OF THE SILVER THORN.—Having a a fair crop of home grown seed of this

SPLENDID NEW HEDGE PLANT,

which I am desirous of seeing extensively tried all over the United States, instead of raising the plants myself, the seed will be sold in packages so as to give every nurseryman and amateur interested in a cheap and beautiful hedge an opportunity to try it. A specimen hedge, only *eighteen months* planted, the public are invited to see at our Germantown Nursery.

Packages of 100 seeds, 50 cents; 12 packages, $5, mailed free.

THOMAS MEEHAN,
Aug. 17—w3t. Germantown, Penn.

10,000 PEACH TREES,

Of Selected Varieties,

including HALE'S EARLY, grown on ground never before planted with peach trees.

5,000 APPLE TREES,

5 to 10 feet high, well grown and stocky. The above trees are offered in quantities to suit; trees dug with care, and packed in best manner. Catalogues gratis. Address

JOSIAH A. ROBERTS,
Aug. 17—w2t. Paoli, Chester Co., Penn.

FOREIGN SEEDS,

Growth of 1865.

THOMAS McELROY will, on and after the **1st of September,** receive orders from the trade, for FOREIGN AGRICULTURAL

GARDEN & FLOWER SEEDS,

growth of 1865, for FALL AND SPRING TRADE. Correspondents will meet with attention.

THOMAS McELROY,
FOREIGN SEED GROWER AND IMPORTER,
No. 71 Pine-Street, New-York.
Aug. 17—wtf.

FROST & CO.,

Genesee Valley Nurseries,
ROCHESTER, N. Y.

Offer an immense stock of well grown

STANDARD AND DWARF FRUIT TREES,

SMALL FRUITS,

Ornamental Trees, Shrubs, Plants, &c.,

FOR THE AUTUMN OF 1865.

Nearly FOUR HUNDRED ACRES are occupied in their cultivation. The public are solicited to examine the following CATALOGUES, which give full particulars of their

STOCK, PRICES, &C.,

and will be mailed *prepaid* to all applicants on receipt of five cents for each:

Nos. 1 and 2—Descriptive Catalogue of Fruits and Ornamental trees.

No. 4—Wholesale Catalogue for Nurserymen, Dealers, and others who wish to buy in large quantities. Address

Aug. 17—w2t. FROST & CO., Rochester, N. Y.

BOOK AGENTS WANTED.

Ready in a few Days.

THE HISTORY OF THE REBELLION.

ISSUED by the **AUBURN PUBLISHING CO.,** in two Octavo Vols., **1600** pages, **200** PORTRAITS, MAPS, DIAGRAMS, &c., &c. The **first, cheapest** and **best** HISTORY published. A rare chance for Agents. NEW ILLUSTRATED ORDER BOOK now ready. Terms very liberal. ☞ For Circulars, terms, &c., write to **E. G. STORKE, Auburn, N. Y.** Aug. 17—w2t.

SECOND

Exhibition of the

N. E. AGRICULTURAL SOCIETY,

AT CONCORD, N. H.,

Sept. 5, 6, 7 and 8, 1865.

Premiums Offered---$8,000.

CATTLE.—The Society's Medal is offered for the best Bull of any age of each breed; also one for the best Cow or Heifer; open to competition to *prize* animals, and to animals from any part of the United States or the Canadas.

HORSES.—On Friday a *subscription sweepstakes* will be competed for, the Society offering $300, and each horse entered to add $50; open to all horses in the United States. Three entries to be made at least, and two at least to start. The best horse draws $300; 2d best, $100; third, $50.

SHEEP.—The Society's Medal is offered for the best Buck—also for the best pen of three ewes—open to the United States and Canadas.

IMPLEMENTS.—All instruments, machines, utensils and apparatus intended to be used in the preparation, culture or seeding of the soil, in the harvesting, transportation or manufacture of produce, or in the various requirements of agriculture, will be admitted to the exhibition. No distinction will be made between agricultural implements manufactured in or out of New-England.

ENTRIES.—Notice of the intention to enter live stock, and all other contributions should be sent to STILLMAN HUMPHREY Assistant Secretary, Concord, N. H., on or before September 1st, that proper arrangements may be made for their accommodation. It is especially requested that all exhibitors desiring *good* accommodations, should make their entries at least one week before the exhibition.

Letters of inquiry may also be addressed to Col. DANIEL NEEDHAM, Boston, Mass., and Hon. MOSES HUMPHREY, Concord, N. H., Superintendent of the grounds.

DANIEL NEEDHAM, Secretary. GEO. B. LORING, President.
Aug. 17—w3t.

FRUIT AND ORNAMENTAL TREES

FOR FALL OF 1865.

ELLWANGER & BARRY have the pleasure of offering their usual

LARGE AND COMPLETE STOCK OF

STANDARD AND DWARF FRUIT TREES,

GRAPES,

both Hardy and Foreign—old and new varieties.

STRAWBERRIES,

and other Small Fruit—all varieties worthy of cultivation.

ORNAMENTAL TREES,

FLOWERING SHRUBS, EVERGREENS, &c.

ROSES,

including a fine collection of STANDARDS 3 to 5 feet high.

TREE AND HERBACEOUS PÆONIES,

a great collection of new and beautiful varieties.

Bulbous Flower Roots, &c., &c.

The stock is vigorous, well grown, and in every particular first class. Planters, Nurserymen and Dealers are invited to inspect the stock personally, and to examine the following Catalogues, which give full particulars, and are sent prepaid to applicants who enclose stamps, as follows:

Nos. 1 and 2, ten cents each; No. 3, five cents; No. 4, three cents.

No. 1—A Descriptive and Illustrated Catalogue of Fruits.

No. 2—A Descriptive and Illustrated Catalogue of Ornamental Trees, Shrubs, Roses, &c., &c.

No. 3—A Catalogue of Dahlias, Verbenas, Petunias, and select new Greenhouse and Bedding Plants, published every spring.

No. 4—A Wholesale Catalogue or Trade List, published every autumn.

ELLWANGER & BARRY
MOUNT HOPE NURSERIES, ROCHESTER, N. Y.
Aug. 17—w2t—Sept. 14—w2t.

Agricultural Books for Sale at this Office.

FRUIT FARMS FOR SALE.—A Fruit Farm of 20 acres, one of 84 acres, and one or two others, now producing handsome incomes, all

Near Burlington, N. J.,

in the heart of the fruit region, are for sale on easy terms. Full particulars by addressing
Aug. 17—w4tm1t. BOX 83, Burlington, N. J.

"GO SOUTH."

Farm for Sale in Virginia,

36 miles from Richmond, on the Danville railroad, 400 acres, suitable for grain or grazing—well watered and timbered. A good variety of fruits. A good dwelling house and necessary buildings. Will be sold cheap; possession any time. Address
G. B. STACY, Box 566, Richmond, Va.
Refer to Fowler & Wells, New-York. Aug. 17—w4t.

CHESTER COUNTY WHITE AND

.Prince Albert Pigs

FOR SALE, not akin, best blood in the country, $18 per pair. Apply to
R. L. PELL,
June 8—w&mtf. Pellham Farm, Ulster Co., N. Y.

FOR SALE.—The farm of the late HENRY HOWE, 2½ miles from the beautiful village of Canandaigua. It contains 140 acres, in a

Fine State of Cultivation.

Above 25,000 tiles and 60 cords of broken stone have been laid in underdrains. It has a comfortable tenant house, three good barns, sheep sheds, and a pleasant cottage dwelling house. Abundance of fine fruit, and is well watered with living springs.

Application can be made to Mr. WILLIAM SMITH, Mr. GIDEON GRANGER of Canandaigua, or to Mrs. HOWE, on the premises. Aug. 3—w4t.

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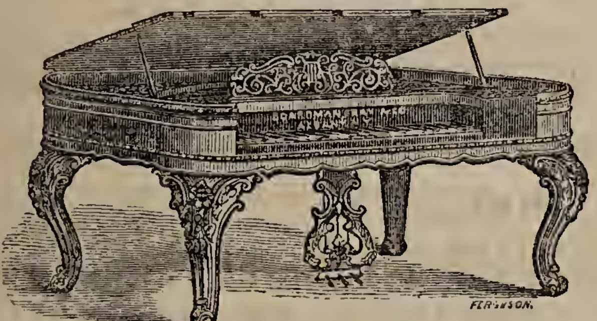
Patent Improved



Insulated Iron Rim and Frame

PIANO FORTES.

MANUFACTURED BY

WILLIAM McCAMMON

(Successor to BOARDMAN, GRAY & Co.,)

Albany, N. Y.

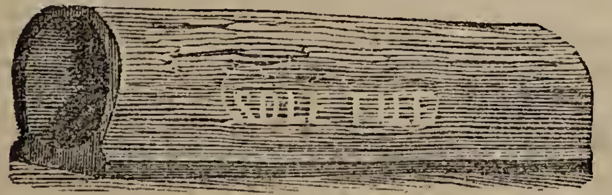
☞ SEND FOR ILLUSTRATED PRICE LIST. Mar 23—w&m.

NEW-YORK STATE TILE WORKS,

NEAR THE CORNER OF

LARK & LYDIUS STREETS, ALBANY, N. Y.,

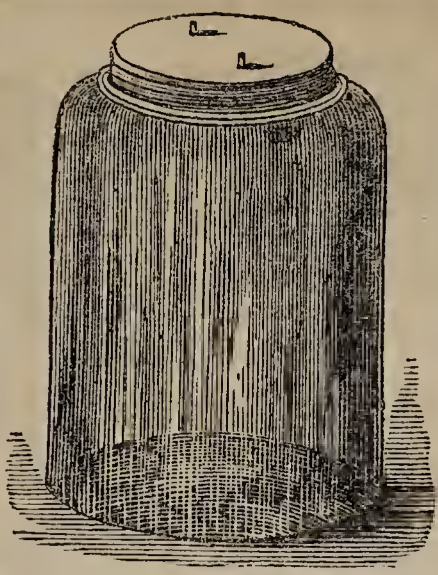
WM. M. BENDER, Proprietor. | **GEORGE JACKSON,** Superintendent,



The Subscriber is prepared to furnish, Round, Sole and Horse Shoe Tile, over 13 inches in length, by the cargo, or in the smallest quantity on demand, at prices that he will defy any other parties to undersell him. He will warrant his tile hard burnt, and to fit close at the joints, and altogether superior to any made in the United States.

All tile delivered on board of cars or boat in this city free of charge. Price list sent on application.

Also DRAINING TILE MACHINES for sale of the latest improved patterns. For further particulars address as above
April 6—w&m.



MASON'S
PATENT
FRUIT JAR
THE MOST
RELIABLE JAR
FOR
Preserving Fruit.

Manufact'd by the
Sheet Metal Screw Co.
214
PEARL-ST.,
New-York City.
Je. 29—13tm3t.

PUBLIC SALE OF FINE STOCK.—I will offer for sale at PUBLIC AUCTION, at my Farm, near Xenia, Ohio,

On Tuesday, the 29th inst.,

the following valuable stock, viz.:

FORTY HEAD OF SHORT-HORNS,

consisting of BULLS, COWS and HEIFERS.

Twenty Head of Horse Stock,

principally brood MARES and COLTS, the latter being the get of the thorough-bred horse BEN BUTLER, alias SCRIBBLER. Also 200 SPANISH MERINO SHEEP (100 breeding ewes, 8 yearling bucks, and the remainder spring lambs.)

Sale to commence at 10 o'clock, A. M. Terms made known on day of Sale. Catalogues will be ready for distribution by the 20th inst.
D. McMILLAN,
Aug. 17—w2t. Xenia, O.

COTSWOLD SHEEP FOR SALE.—A few thorough-breds, consisting of

Bucks, Ewes, Lambs,

&c., from best imported stock. WILLIAM REYBOLD,
Aug. 17—w13t. Delaware City, Del.

NEW IMPORTATION OF

ITALIAN QUEENS.

We have this season imported QUEENS

DIRECT FROM THE DISTRICT IN ITALY,

where, according to the last German Bee-Keepers' Convention, this variety is found in the highest purity. We are prepared to furnish queens bred from this importation, or our previous ones from Dzierzon, guaranteeing their

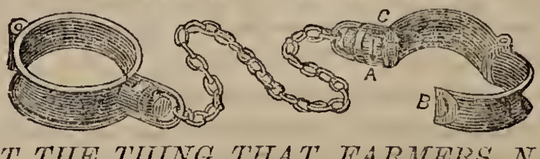
Purity and Safe Arrival by Express.

For prices, etc., send for circular to

L. L. LANGSTROTH & SON,
Aug. 17—w4t. OXFORD, BUTLER CO., OHIO.

NEW PATENT

ANIMAL FETTERS.



JUST THE THING THAT FARMERS NEED.

Light, Strong and Durable,

THE BEST EVER OFFERED TO THE PUBLIC.

SEND FOR CIRCULAR AND PRICES TO
JOSEPH BRIGGS,
July 20—w8t. 335 Broadway, New-York.

LEICESTER SHEEP,

ALDERNEY HEIFERS,

FOR SALE.

WILLIAM REDMOND,

45 Barclay-Street, New-York.

July 27—w8t.

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PRICE LIST OF THE BEST

American Varieties of Strawberries,

The PHILADELPHIA RASPBERRY, and what is of still more importance to fruit growers, the

Willson's Early Blackberry,

the fruit of which averaged in the Philadelphia wholesale markets this year $8 per bushel. Price List sent gratis to all applicants by addressing JOHN S. COLLINS,
Aug. 10—w&m1t. Moorestown, Burlington Co., N. J.

$75 A MONTH.—Agents wanted to sell Sewing Machines. We will pay a liberal salary and expenses, or give large commissions. Address
D. B. HERRINGTON & CO.
July 13—w3tm2t. Detroit, Mich.

FOR SALE.—The thorough bred Ayrshire Bull MADISON, 14 months old; color white and red; pedigree given. Price, $50. Address
Aug. 24—w2t. G. VAN VALKENBURGH, Troy, N. Y.

The Annual Register of Rural Affairs---1866.

The Twelfth Number of THE ANNUAL REGISTER OF RURAL AFFAIRS, for 1866, is now in press. The usual amount of labor and expense have been laid out upon its contents and illustrations, and we think it will rank as one of the most interesting and useful numbers in the series.

The purpose of this notice is to apprise ADVERTISERS that a limited number of pages will be devoted to their wants, as heretofore. THE ANNUAL REGISTER remains as a work of constant reference throughout the year; it reaches thousands who are not subscribers for either of our other publications, besides its purchase by a very large majority of the subscribers to the COUNTRY GENTLEMAN and CULTIVATOR. The back numbers remain in demand year after year, so that the advertisements *are constantly brought into new hands.* And, as the sales of the ANNUAL REGISTER continue large, not only throughout the Autumn and Winter, but also late into the coming Spring, we may suggest that advertisers should bear in mind this fact in the preparation of their favors: manufacturers of Mowing and Reaping Machines, Plows and other Implements, as well as Nursery and Seedsmen, Breeders, etc., will "be first in the field" for 1866, by taking this medium of reaching the Agricultural Public.

TERMS OF ADVERTISING IN THE ANNUAL REGISTER.

One Page	**$30.00**	**One Third Page,**	**$12.00**
One Half Page,	**18.00**	**One Fourth Page....**	**9.00**

Business Cards, (Live Stock, &c,,) $5.

Our friends will oblige us by sending their advertisements *as soon as possible; the space desired should be specified,* in order that the matter may be set as conspicuously as the prescribed limits will permit.

☞ Many have been disappointed in securing advertising space in the ANNUAL REGISTER, each year, from failing to make their wishes known in season. Some of our largest and most constant advertisers were thus excluded from the last number. Those who are not prepared to send "copy" at once, which is not absolutely necessary, can be accommodated by bespeaking the space desired, and we will inform them, in due season, when the advertisement itself must be put into the printer's hands.

Albany, August, 1865. LUTHER TUCKER & SON.

20,000 GRAPEVINES FOR SALE.—Forty best native varieties. Also other Small Fruits. Send for a Catalogue.
R. B. SHAW,
Sept. 1—m1tw2t. Canandaigua, N. Y.

ALDERNEYS FOR SALE.—An Alderney Cow and an Alderney Bull, each three years old, and taken from the celebrated herd of Hon. John T. Norton, Farmington, Conn., will be sold together or separately. For particulars address REV. O. L. WOODFORD.
Sept. 1—mtf. West Avon, Conn.

See Grapevine Advertisement.

STRAWBERRY PLANTS.

Great Agriculturist,

AND OTHER VARIETIES BY MAIL,

PREMIUM BERRY OF AMERICA.

A fine, vigorous stock to be disposed of at the following rates:
AGRICULTURIST, 75 cents per dozen; $2.50 for fifty.
BURR'S NEW PINE, best flavored.
WILSON, very productive.
BOSTON PINE, good.
TRIOMPHE DE GAND, family or market.
FILLMORE, early, excellent.
The above at 40 cents per dozen; $1.50 per 100.
J. H. FOSTER, JR.,
Aug. 24—wtf. Box 660, West Newton, West'd Co., Pa.

Grapevine Advertisement after September 15. Prices lower than last Spring.

WEBB SOUTH-DOWNS.—Thirty EWES, 25 EWE LAMBS, 20 RAM LAMBS and YEARLINGS and the celebrated IMPORTED RAM ARCHBISHOP, for sale this fall.
GEORGE H. BROWN,
Millbrook, Washington Hollow.
Aug. 24—wtf. Duchess Co., N. Y.

SUFFOLK BOAR.—I offer for sale my pure blooded IMPROVED SUFFOLK BOAR, bred by Stickney of Boston, from imported stock. Said hog is two and one-half years old, heavy bone, and well haired has always had the best of success, and is without doubt one of the best hogs in the State. Price, $50.
J. H. JEWETT,
Aug. 24—w1t. Moravia, Cayuga Co., N. Y.

THE CULTIVATOR

THIRD] TO IMPROVE THE SOIL AND THE MIND. [SERIES.

VOL. XIII. ALBANY, N. Y., OCTOBER, 1865. No. 10.

PUBLISHED BY LUTHER TUCKER & SON, EDITORS AND PROPRIETORS, 395 BROADWAY, ALBANY, N.Y.

TERMS—EIGHTY CENTS PER YEAR—Ten copies of THE CULTIVATOR and Ten of the ANNUAL REGISTER OF RURAL AFFAIRS, with one of each free to the Agent, Eight Dollars.

THE CULTIVATOR has been published thirty-one years. A NEW SERIES was commenced in 1853, and the twelve volumes for 1853, 4, 5, 6, 7, 8, 9, 60, 61, 62, 63 and 64, can be furnished bound and postpaid, at $1.25 each—the set of 12 vols. sent per express for $12.

"THE COUNTRY GENTLEMAN," a weekly Agricultural Journal of 16 quarto pages, making two volumes yearly of 416 pages, at $2.50 per year, is issued by the same publishers.

The Cultivator & Country Gentleman.

ROTATION OF CROPS---I.

Culture of the Potato.

The pioneer settler of our land found a virgin soil which brought forth rank harvests, when transformed from the wilderness in which he found it. Little was he obliged, and still less did he think of rotation of crops, or feed cattle and sheep to make manure to replenish a hungry soil. Not so, however, with succeeding generations; a self-supporting system of farming must be adopted. The land must now be fed as well as burthened with harvests. A succession of crops has drawn from its once apparently inexhaustible resources of richness; now he is obliged to return to the soil the necessary material to furnish the elements necessary to feed the growing crop. As different crops draw from the soil different elements, it is found beneficial to make a judicious rotation of the same. Certain crops better adapt themselves to particular soils than to be raised indiscriminately on all soils. For example, a sandy loam of medium tenacity, neither wet nor dry, is well adapted to the following crops: Potatoes, sorghum, Indian corn, tobacco, wheat, and grass. Adopting the foregoing crops for a rotation, and in the order here named, I will endeavor to give a brief outline of the treatment of the same.

POTATOES.—Years agone potatoes were grown with little care on nearly all soils, but disease and the rot have materially altered the necessary treatment due this crop. I have found that potatoes give the best returns planted on a sod, the soil similar to that mentioned above.

Preparation of the Soil.—As early in spring after the ground is settled and dry enough to work, plow with the lap furrow to the depth of 10 inches, laying the furrow slices smooth and true—make them of equal width. After lying a day or two to dry and settle, apply manure broadcast at the rate of five cords to the acre; the best is that made principally of black muck worked over and mixed with horse manure and litter in the hog-pen, in the proportion of two of muck to one of manure, this should be thoroughly decomposed, and best prepared under cover some months before using; spread it evenly over the ground, and with a drag harrow mix it with the soil, finishing off with a fine tooth harrow. The potato being of a somewhat coarse growth, we are apt to plant them in ground but illy prepared, which may be one reason or cause of their degeneration.

Seed.—In selecting seed reference is had to the object of the crop, whether for market or domestic use; if the former, the demand will rule the variety; if the latter, the palate. No tubers should be used either over or under grown in size. A medium size suitable for the table and perfectly ripe will be found the best not only for the first, but succeeding crops. Such are cut into good sized sets of one or two eyes each, keeping the root ends by themselves; if kept on the ground, they may be prepared at leisure during the last of winter, or before the weather will admit of early spring work. In saving seed it should be selected at the time of harvesting; the fairest and best are the most proper, and instead of deteriorating, if this course is followed up, an improvement is the necessary result.

Planting.—Lay off the land into rows 3½ feet apart with a light plow, and into the furrows strew tobacco stalks cut into lengths of 4 to 6 inches. This I have found to produce the fairest and best potatoes of any fertilizer in the hill or drill, they being uniformly smooth and sound. On this, drop the potato sets at a uniform distance of about one foot; cover with a coverer for the purpose drawn by one or two horses; this raises a slight ridge for the rows and gives a uniform covering. Early planting is best—in April, if the weather will admit.

Cultivating.—As soon as the tops make their appearance generally above ground, go through with the horse cultivator, followed by the hand hoe to stir the soil and destroy any weeds around the young plants. Three similar dressings, raising the ridges but slightly previous to their blossoming, is sufficient; any weeds that may show themselves after, should be pulled out by hand.

Harvesting.—The crop should be harvested as soon as ripe, not left in the ground through the fall rains. They are ripe when the tops have died down, and can be pulled without bringing but few, if any, tubers with them. The digging on a small scale is best done with the potato hook; on a larger by a plow; let them lie to dry, so that tke dirt will fall off, when they should be picked up; carried under cover where they may be spread on the ground and have a free circulation of air, and allowed to remain a few weeks, when they are assorted and put in bins of moderate capacity, in a cellar where the temperature is uniform and as low as consistent without freezing.

Culture of Sorghum in Connecticut.

The desire to be self-supporting, is a natural and laudable desire, in every community, and, as a consequence, has led to the putting forth strong efforts which have resulted in the favorable solution of the problem, whether sugar and molasses cannot be successfully and profitably produced in the Northern section of our union. The juice of sorghum or Chinese sugar cane is capable of being made into molasses of a quality equal, if not superior, to New Orleans, and makes a sugar of superior quality. This cane may be successfully grown in some of its varieties wherever Indian corn will perfect itself. In this latitude the "common Sorgo" is the one most commonly raised, as the most prolific; the smaller, quicker growing varieties, though not so profitable, are more desirable in more northern latitudes. Aside from its valuable qualities as syrup and sugar producing, it is one of the best plants raised for cattle, horses, or hogs; they eat it with a relish, and grow fat. Cows fed with it give excellent returns in the milk-pail. A friend who has raised it for fodder for many years, assured me that speaking within bounds, the product of an acre would keep three head through the winter in thriving condition.

Seed.—This plant being closely allied to broom corn, should not be raised near it, as it mixes and thus degenerates. The seed should be selected from the strongest, ripest and sweetest canes, and these gathered by themselves and carefully saved. It is best hung up in the attic of buildings, or spread on racks to dry.

Preparation of the soil.—The roots of the "sorgo" run deep, consequently the soil cannot be loosened too deep. Plow with a narrow furrow slice to the depth of ten to eleven inches; better if subsoiled the last of April or early in May; sow broadcast four to six bushels of lime to the acre previous to harrowing; the more thoroughly the soil is pulverized with the harrow the more readily the crop grows, and the less the labor in after cultivation.

Planting.—Lay the land off into rows 3½ feet apart with a plow, drop out the manure 2½ feet apart for hills, at the rate of twelve good cart loads of well decomposed compost to the acre; mix a little soil with it and plant the seed over it; put in six or eight seed to the hill, cover with fine soil to a depth not exceeding one inch. The seed soaked in warm water one day, and put in a bag and buried in warm soil two or three days before planting will come up much sooner. Planting should be done previous to the middle of May.

Cultivating.—The young cane is very diminutive, and is hardly distinguished from water grass, and unless well and carefully cultivated, is very slow to start into growth, often remaining at a stand still for several weeks after rising two or three inches, but when dressed out as soon as above ground, and frequent after-dressings, it grows comparatively rapid. Not a weed should be allowed to grow among it. Thin to four stalks to the hill at the second hoeing. The more frequent the cultivator is run through it, followed by the hand hoe till it attains a growth of three feet, the more rapid the growth.

Harvesting.—The cane should be cut previous to freezing frosts, for freezing and a thaw following previous to manufacturing injures it very materially for syrup or sugar. It makes the best syrup and sugar to get thoroughly ripe, (which is known by the stalk turning a reddish brown, and the seed having passed from the dough state,) cutting and placing under cover, or shocked in the field with tops and blades all on, and well protected with corn-fodder or like; it thus may be kept six to twelve weeks, without danger of frost or fermentation; thus kept it makes a better quality and a greater quantity of syrup and sugar. The tops are cut off two or three feet, as also the leaves stripped and the canes tied into small bundles, by having a band of leaves tied around them near each end, previous to carting to the mill; they may then be carried on a common cart and dumped. Many strip the leaves previous to cutting in the field by taking a fork and striking downwards and thus breaking the leaves from the cane; the leaves cured and immediately stored are equal to hay for fodder. When the crop is raised for fodder only it can be shocked in good sized shocks well tied up, and remain in the field to be hauled during the winter as wanted to feed out. The grinding the cane and reducing the juice to syrup and sugar is a branch which properly belongs to the manufacturer who is supposed to have all necessary machinery and appliances for its proper reduction and the process is here omitted.

Culture of Indian Corn.

Seed.—It is peculiarly annoying to the farmer, having been to the trouble and expense, of planting a crop, to find that the seed from a slight neglect or oversight fails to grow; in no crop is there so frequent failures as in the corn crop; all of which might be avoided by using care in selecting and saving seed. Instead of going to the crib and selecting as many do, select when harvesting the earliest ears from stalks bearing two or more ears, have those well filled out over the end, seed set close together with no vacant places or openings between the rows, large kernels with small cobs; leave two or three husks on each ear and braid them into strings of about two dozen each; hang them up in the attic of your buildings, where they will keep dry and not be disturbed and have a free circulation of air around. When wanted for use, break, or chop off, both the tip and butt end of the ears, using the middle portion only for seed.

Manure.—Corn is a gross feeder and needs any quantities of fertilizing material to feed on. We find no failure in good stable and yard manure to fulfill all requirements when properly applied; these can be greatly increased in quantity, while the quality is scarcely affected, by composting with peat, muck, etc. An application of twenty loads, spread, well fined, and plowed in to the acre, will give the crop fair usage and keep the land improving.

Plowing.—As early in May as possible cart on and plow in your manure at least ten inches deep; the narrower the furrow slices, the more thorough the breaking up the soil and the better for the crop, etc

The land should be harrowed thoroughly to pulverize any coarse lumps or sods, etc., the harrowing to be done immediately before planting.

Planting.—Usually but little is gained in putting in the seed before the ground has warmed a little, so that it may grow right along as soon as it germinates. Lay off your rows 3½ feet apart with a suitable marker; one made similar to a sled, with three runners and a guide, to mark three rows at a time, arranged to be drawn by a horse, is perhaps as good as any. The hills are made 3½ feet apart, and into each about half a pint of poudrette is dropped; on this drop the seed, four or five to a hill, having previously rolled it in plaster; now with the horse coverer arranged to cover at the right depth, cover the seed. The corn can be dropped by good steady boys. I prefer to plant in quincunx instead of rectangular form, as the crop is more evenly distributed; the extra work being more than compensated for by being better done by hand, as the more thorough the cultivation, the better the returns.

Cultivation—Should be commenced by the use of the cultivator, followed by the hand hoe, stirring the soil around and between the plants, and removing weeds as soon as the young corn has come up and the plants distinguished a distance of 40 rods. The cultivation should be repeated at intervals of twelve days, till the corn gets so large there is danger of damage in going among it with the horse and cultivator. Very little raising of the ground around the corn is necessary, as near level culture is preferred. Three to four stalks to a hill at first or second hoeing. Pull or cut any weeds that may grow after the last hoeing.

Harvesting—Is best done by cutting up by the roots with a corn knife; when the husks begin to open and the seed is seared over is the proper time for cutting. Sixteen to twenty hills are put in a shook. The corn is cut, and instead of being laid down, as a hill is cut it is immediately set up beside of a standing one, and when three or four are thus placed a stalk is tied around them to hold them together; the butts of the stalks are firmly placed on the ground, standing as near upright as possible, and the whole shook as built is pressed close together; if the weather be fair and still, the shooks may be allowed to stand over one or two days before tying up; they should be firmly and securely bound in at least too places, near the top, and again a little above the ears. The binding and setting of the shooks upright and firm is important to shed the rain and prevent blowing down. It may remain in the field till the corn is ripened and the stalks have cured, when it should be husked, the stalks bound in suitable bundles, housed, or stacked and well secured with thatch covering from rains and wet. The corn should be cribbed in suitable cribs in the corn barn, or other suitable shelter; the cribs should not be over three feet wide at the bottom, and five at the top, and not to exceed ten feet in height, open to a free circulation of air under and around.

South Windsor, Conn. WM. H. WHITE.

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Productive Sheep.—The Kingston Journal states Mr. D. W. Dubois of Libertyville, Ulster Co., has 27 ewes, from which he raised this season 40 lambs. He sold the lambs for $204. From the ewes he sheared 114½ pounds of wool which sold for $65.41, making a total of $269.41.

PREPARATIONS FOR WINTER.

BY A HOUSEKEEPER.

Brandy Fruits.—Pears should be pealed, the stems left on. Peaches should be laid in weak lye until the fuzz, but not the skin, will wipe off clean. Plums, cherries, grapes, and similar fruits, are preserved whole—grapes in bunches. These small fruits are put in jars and a rich syrup of sugar and best brandy poured over them hot; this repeated several days in succession. This process makes the best fruit, but the prettiest is made by pouring the syrup over cold. Peaches, pears, &c., should be simmered in syrup until tender, not shrivelled. Enough of best brandy added to the syrup in which they were boiled to flavor well and cover entirely. These anti-temperance exhilarants are very palatable and popular.

Drinks.—Shrubs are made of the juices of fruit, such as lemons, currants, raspberries and blackberries. Express the juice as for jelly; as long as these fruits are around you fresh, use the juice without boiling; preparing as you would lemonade, by simply mixing sugar, water and nutmeg grated over—ice, of course. For keeping, the juice is prepared as for jelly, and boiled to a syrup and bottled. When used dilute with water, and if not agreeably acid, use some tartaric acid with it.

Wines—Are the juices of grapes or other fruits, which are, after fermentation, bottled and in inverse ratio to other things are more valued the older they get. Any careful housekeeper may make better drinks than are to be bought under the best brands. But they are expensive and troublesome, and, morally considered, had better be dispensed with as a beverage; but being useful in sickness, and indispensable to fine cooking, we give a few receipts, that the house-keeper may have them pure.

Gooseberry.—The fruit gathered when half ripe; bruise them; press out all the juice. To every gallon of the fruit allow 3 pounds of best loaf sugar. If you have a few gallons, five for instance, let it stand in some cool place for a week, draw it off clean and after standing a fortnight again bottle.

Currant.—To 12 gallons bruised currants put 20 gallons of soft, pure water, and let it ferment. Then add half a pound of sugar to each gallon of liquor. Some persons add lavender leaves or spices; we think the purer the better. Allow to the above quantity of wine one gallon of spirits. Draw off the lees in a month.

Raspberries, Blackberries or Elderberries—make good wine. Procure the juice, allow 1½ lbs. of sugar to each gallon of liquor. Clarify by boiling with whites of eggs mixed in, for 20 minutes. When cool and settled, strain off the liquid and add some yeast. When fermentation ceases, bottle.

Grapes.—Gather fully ripe grapes, on a dry day; pick out all unripe or decayed ones. Mash them in clean, sweet vessels. When fermentation takes place fully the mass will boil like a pot. When this subsides press out the juice fully. A cider press answers perfectly. If the juice will float an egg so that only a part as large as a quarter of a dollar is visible, it can be made pure wine. If the egg sinks, add good brown sugar until it rises. Put it into a cask in a cool, quiet place, the vessel even full, so that it can cast out the impurities that will work up. Reserve enough liquid to fill up repeatedly through the day, so this purification may go on. After eight days put in the bung loosely; after eight more drive it in securely. The cask should remain after this undisturbed for six months; it may then be drawn off and bottled, but the wise in these matters say it ripens best on the lees.

THE NEW-ENGLAND FAIR.

The New-England Agricultural Society opened the season of Autumn Meetings last week at Concord, New-Hampshire, with a very successful and interesting Show. In many classes superior to that of 1864, at Springfield, in nearly all, the entries were more numerous, and in some the display would have been creditable to any Society in the Union. The number of Cattle present we understood from the Secretary to be as follows:

Short-Horns,	110	Jersey and Dutch,	45
Devons,	63	Working Oxen.	43
Ayrshires,	32	Grades and "Natives,"	43
Fat cattle and calves,	16		

The show of Short-Horns was of higher than the average merit throughout, and included many individual animals particularly good. As was to have been expected, H. G. White, South Framingham, Mass., and Burdett Loomis, Windsor Locks, Conn., were leading exhibitors—the latter taking the herd prize with his most charming little 4th Lord Oxford, of Thorne's breeding by 6th Duke of Thorndale from 2d Lady of Oxford, and six females, including Vena by Sheldon's Imperial Oxford. But the case was very evenly balanced, and when the committee came to decide the sweepstakes as to best bull and cow of any age respectively, the greater age and Duchess blood and excellent promise of Mr. White's 9th Duke of Thorndale brought him out at the head, and among the cows Lady Mary, by Hotspur, from the same herd, also led the van. A third party however ran closely for this latter honor, G. T. Plunkett, Hinsdale, Mass., having put in for the sweepstakes with Lullaby, a calf of 6th Duke of Thorndale from Lady Margaret, not owned in New-England long enough to compete in the regular class of her own sex and age, and a very sweet thing indeed. Samuel Appleton, Southboro, Mass., made a good show for the herd prize, with Matador by 3d Duke of Thorndale to lead off; Carlos Pierce of Boston and Stanstead, C. E., was on hand with Monitor and his female companions; A. M. Winslow and Sons, Putney, stood for the honor of the Green Mountain State, with Rising Star, and among others two Lady Sales; and Josiah Fogg, Deerfield, represented the rich valley pastures of Franklin Co., Mass. Thus, remembering that the "herds" referred to were but a part of the stock shown by several of the parties named, and that in addition to them there were numerous other exhibitors, among whom may be named Richards Bradley, Brattleboro, Vt., the Allens of Vergennes in the same State, L. Dole and Barney & Dole of Claremont, N. H., Robt. Elwell, Langdon, and others,—it will be seen that competition was brisk, and the task of the judges by no means a sinecure. With such a start it cannot be said that the Short-Horn is unlikely to hold its own in the East.

The Devons were a fair lot, and some of them superior. E. H. Hyde of Stafford, Ct., was a large exhibitor, fully maintaining the credit of his herd. Massachusetts was represented by D. B. Merrick, Wilbraham; H. M. Sessions, South Wilbraham; Wm. Eames and N. Washburn, Worcester, and possibly by one or two others; Vermont by D. Davis & Son, Windsor, John Brockway, Hartford, etc.; and some were also shown from New-Hampshire.

In the Ayrshires present we were rather disappointed, though President Loring, Salem, Mass., William Stark, Manchester, N. H., and quite a number of other exhibitors from those States and from Maine, afforded a good illustration of the characteristics of the breed, with now and then a pretty specimen among the young things, and a tolerable lot of cows. Dutch Cattle were shown by W. W. Chenery, Belmont, Mass., and Carlos Pierce; Jerseys by R. Bradley, W. S. Lincoln, Worcester, N. Fines, Lexington, W. Stark, Isaac White, and others, and there were several Kerrys and one or two Suffolks also in the ring. The display of grades and natives was creditable, if perhaps, not quite as striking as last year at Springfield; the Working Oxen we missed, and cannot report on; but the ring of Fat Cattle was pleasant to look at, having the unwieldy Gen. Grant to head the ring, with the thirty-six or eight hundred encased in his smooth white hide, and the merit of having earned $10,000 for the Sanitary Commission by the liberality of his owner, Carlos Pierce, in sending him to and fro over the country. A very large heifer was also shown, and purchased before the close by Mr. Pierce, who will see what farther feeding can do for his massive pets. Aside from these there were one or two of less gigantic proportions, but of symmetry and compactness which would perhaps sooner commend them to the feeder's eye; we regret not to have taken a note of their ownership.

The show of Horses was in many respects a decided improvement upon that of 1864, and although we heard Vermonters compare it unfavorably with the exhibitions sometimes made at their own State Fairs, it was certainly entitled to a high rank, and cannot be passed by without details. The thorough-breds, as was to be expected, were not in very strong force, and included some of the same animals, we believe, from W. W. Chenery, Esq., and others, that were shown at Springfield; but the half-breeds were more numerous than last year, and in the class of Saddle Horses there were some very nice animals, which showed considerable breeding. Of the General Utility classes, those of the younger horses were the best filled, and this was perhaps the strongest point in the part of the show under review. Moreover, as we were assured by competent judges, who devoted more time to the horses than we could spare, the young stock manifested better breeding, as a general rule, than in 1864, and better size. The Morgans were not out in so strong force, to be sure, but perhaps to the betterment of the exhibition. What there were shown, included an unusual proportion of very good size and style. The good results of crosses of Black Hawk or Justin Morgan descent upon Hambletonian mares were noteworthy, and we were told that nearly all the stallions claimed the latter blood in the veins of dam or grandam. Of the particular horses which deserve remark, without any dispargement of others we may refer to the following: Geo. M. Patchen, Jr., owned by B. D. Godfrey, Milford, Mass., in the class of stallions eight years old and over, was a very superior animal in style and action; the class five years old and under eight, numbered 15 or 16, several of them very good, and of these Prince especially attracted our attention—he was raised by Wilder Pierce of Boston, and shown by the son of that gentleman, Carlos Pierce, who intends to put him in training another season, as, though now 6 years old, he has never been trotted at all, notwithstanding the excellent promise of speed he affords. Standing 16 hands and weighing about 1,150 pounds, he has admirable style as well as good size, and is a credit to his breeder in all respects. In the class immediately succeeding we find nothing noted, but in that of three-year olds, Mr. Pierce also exhibits Black Diamond, Jr., a Canada cross with the Black Hawk, and a very clean limbed, stylish colt of much promise. Among the mares with foals at side, J. G. Wood, Milbury, Mass., had a fine bay mare with a colt by Volunteer, and B D. Godfrey, Milford, showed Lady Stevens with her colt by Patchen—both good mares and in a good class. Among the Mares and Geldings P. W. Jones, Amherst, N. H., exhibited the now quite famous mare Empress—also a Cassius Clay mare, 3 years old, out of an Abdallah dam, standing 15 :3, blood bay, rangey, and displaying remarkable signs of speed—also another Cassius Clay mare, 5 years old, for which, as we were told, $2,000 has been refused. Among about a score of teams competing as Matched Horses, there was nothing finer, we venture to assume, than Mr. Carlos Pierce's 16 hand and most perfectly matched pair of Black Hawks, full brothers, without a white hair, unless just above the hoof, and working together as kindly as if animated by a single set of muscles. As a four-in-hand team they took position as wheelers with another pair, but lately in the possession of the same gentleman, to lead, also black, and making up a fine turn-out. A grey four-in-hand team, also much admired, was made up by W. A. Tower, Lexington, Mass., and Waldo Pierce, Bangor, Me. Among others in the display of matched horses, the fine team shown by Samuel Appleton, Southboro, Mass., should not be overlooked. Of Saddle Horses the show was an excellent one ; we noted those of Carlos Pierce, a high-bred Kentuckian, and of S. F. Twitchell, Framingham, also well-bred, and we intended to have examined others of the class, had not time failed for the purpose. Of Draught Horses the show was quite meagre. As to the trotting and the numerous matches which came off we have nothing to say, unless to mention the presence of old Ethan Allen—our opinion having been so decidedly expressed heretofore that "trials of speed" are *wholly out of place* on the show grounds of an Agricultural Society—real utility and elegance being as clearly manifest to the judges upon examination of style, action, etc., in a ring or upon a short track, as they would be upon a contested match in which a few seconds' difference of speed, might (and often does) carry the prize from a really useful animal to one of no practical value as a breeder, and of very little indeed to the community or his owner. And it is a most dangerous thing, as all experience has shown, for the permanent prosperity of a Society, to foster the taste for these matches, not to refer to the encouragement thus afforded to high betting and the profligate use of money.

The only remaining department of the Show which we shall notice at length, is the Sheep, and these must now be referred to more briefly than we had intended. We understood the representation to be about as follows :

	No. of Entries.	No. of head present.
1. Long Wooled,....	66	241
2. Middle Wooled,..	68	303
3. Merinos,..................	116	340
4. Fat Sheep, ...	9	....

The above is the order of the prize list. Under the first head were the Cotswolds of Burdett Loomis and Byron Loomis, Suffield, Ct., a very good display, R Bradley, Brattleboro, and others ; the Leicesters of E. R. Andrews, West Roxbury, Mass., N. Batchelder, Epping, the Allens of Vergennes, etc. ; the Texel sheep of W. W. Chenery, Belmont, and though not properly entered in this class, the Angora goats of the same gentleman. Burdett Loomis, we were pleased to learn, has a new importation of Cotswolds now *en route*, comprising 15 ewes and a yearling ram, from the best English sources. The 2d head includes South-Downs from such excellent flocks as those of H. G. White, some of whose pens, if space permitted, would be worthy of special notice, G. T. Plunkett, Samuel Appleton, J. B. Sanborn, East Concord, Thomas Buffum, Newport, R. I., J. T. Hoyt, East Concord, and others ; Hampshire and Oxford Downs from Wm. Parker, Suncook, Carlos Pierce, etc.,—altogether considerably exceeding our expectations as to a display of Mutton sheep, and illustrating the very gratifying advance they are making in popular favor.

Of Merinos, the Atwood family was chiefly represented, and though not including competitors from some leading flocks, the display was a great improvement in general character, upon that at Springfield in 1864. Some of the pens exhibited by W. R Sanford and O. S. Branch, Orwell, Vt., L C. Mead, Cornwall, Cushing and Boynton, Woodstock, N. Richards, Vergennes, Josiah Cowles, New Haven, J. D. Wheat, Putney, Carlos Pierce, and others, which we more particularly examined, we should be much pleased to refer to in detail. There were a number of exhibitors also from New-Hampshire. The valuation placed upon many of the rams, young and old, would have surprised any one not familiar with the developments of the past few years in this direction. But it is gratifying to note that we saw and heard nothing whatever of the "American Merino" name ; and the "Infantado" pedigree was only mentioned with a smile. More than one pen was labelled "Atwood Merinos," and this was the only answer given, so far as we could learn, to frequent inquiries as to what the sheep were, from spectator to breeder—except that when some more close investigator would use the other names in his queries, the reply would be, "Well, *some call them so*." And we could hardly resist the conclusion that while Vermont breeders may not object to the employment of *taking* names for effect in other States, they appreciate very well the real meaninglessness of these names, and at home give them the cold shoulder accordingly.

The Swine were few in number, and we did not see them, though it was said they included some very good Essex and Chester counties. The display of Poultry was quite large. The variety and extent of the exhibition of agricultural implements, was unexpectedly great, comprising assortments from the several leading New England manufacturers and dealers. The show of Fruit, which, with the Domestic goods, Grains, &c., was held at a public hall in the town, was not as extended as at Springfield—the year having been unfavorable, if indeed the locality was quite as good for a large display. Public meetings for discussion were held nightly, and the only one of them at which we were able to be present for a few minutes, was attended by quite a large and interested audience. The range of the discussion, however, was very wide, and we did not hear anything elicited of sufficient point to report.

Financially, we presume, the Show must have been a success. The weather, although uncomfortably warm, with thick clouds of dust, was favorable to the presence of a crowd, and on Wednesday and Thursday the whole place was completely thronged. The officers and friends of the Association are to be congratulated on the evidences of improvement afforded upon their previous efforts, and the influence of their second Show cannot but be most beneficial in many departments, in promoting the progress of New-England agriculture, and the improvement of New-England stock. L. H. T.

CONCRETE BUILDINGS.

Messrs. Editors—Allow me through your columns, to reply in brief to W.'s inquiry in regard to the mode of building concrete walls, and their durability.

In June, 1857, we laid the foundation for a barn for horses, wagons, &c., by cutting the earth perpendicularly to the bottom of cellar, to correspond with the outside of the walls, and secured temporary boards to hold the inner side, leaving a space of two feet in width to be filled in with a layer of coarse stones, followed by a layer of mortar made of coarse gravel and oyster-shell lime, thoroughly mixed, and carried from the bed to the walls in pails by hand.

When the walls were raised to the height desired for floor, as soon as hardened sufficiently floor timbers were laid directly across the walls which served as staging for the next story.

Above ground we retained the walls in form till dry, by means of inch pine boards one foot wide, cleeted on the outside, the cleets extending one inch above the board, held in place the bottom of the board above, and resting on it. The boards were held in place, one on the outer, and the other on the inner side of wall, by ⅝th inch iron rods headed at one end, with a thumb screw on the other to allow its easy removal.

We made the walls of the lower story 8 feet high, one foot thick, and raised the walls one foot each day around the entire building; used two tier of boards, taking off the lower tier and placing on top of the ones raised the day before.

In this way we erected the walls of a building eight square, 16 feet sides, from the first to second floor, in eight days; gave it a few days to harden, laid on floor timbers, and proceeded in like manner with second story of same height, with walls 10 inches in thickness. The walls of this story were raised eight feet in six days by laying two courses a day, which though safe in this instance I would not recommend as there is danger of falling of its own weight when green. The walls were now complete, roofed, and remained unprotected from the weather. To give the building a finish the walls have been plastered, the inner side with lime mortar; the outer side, a portion of water lime or cement, added, and colored to suit the taste of the owner. We also carried up division walls of the same material, at the same time and way as the outer walls. The doors and windows we made by setting posts and frames in the walls, same as for brick or stone. For this a joiner is required, and perhaps to properly plumb the walls. All the other labor was performed by our farm hands, under our own supervision, and the walls stand as true and firm as if laid of brick by skillful masons. The material used were small stones such as we picked off the fields to clean them for the plow, machines, &c., and coarse gravel, dug from a bank close by, mixed as before stated. The stones were laid by hand. Nothing was used to give the walls adhesion but the lime, oyster-shell being used in preference to stone lime, because easier obtained.

So much for success; now for failures. The above building was completed in August. We then proceeded to build a piggery 20 feet square, joined to one side of the barn—giving the pigs access to the manure celler under the stables. The walls were to be raised 10 feet high, in the same manner as the others had been; but being anxious to complete it, and having met nothing but success, we rushed them up three or four feet per day, using, to retain them, more courses of boards. All went well till the last course was being put on, when the green mortar underneath gave way, and the walls came with a crash to the ground. The season was now getting late, but we immediately started again, using over the same material,—giving it another mixing in the bed,—and succeeded in having walls sufficiently hardened to withstand early frosts which followed, and make one of the warmest and most comfortable piggeries in winter, and coolest in summer, that I have ever seen. The same is true as a stable for horses. Water seldom freezes inside of the walls, and the upper story keeps hay in as good condition as a wooden building.

The cost of the above was much less than wood, while it possesses many advantages over either wood, brick, or stone. It is as well adapted for houses as barns, and a cheap and durable way of making fence walls—one built at the same time as above, remains in good condition with no protection.

Mount Carmel, Conn. I. H. DICKERMAN.

ROAD MAKING AND ROAD MENDING.

It was very provokingly amusing to read your recital of "road mending," as generally practiced by overseers of highways. But one very important part of road-making you did not witness; it is styled water-breaks, (or more properly *break-necks*,) which are made to turn water from the travelled road. Two ways are practiced in making them. One is called the swallow-tail form, while on the other the furrow extends diagonally across the whole track. They are made with a team and plow to cut a furrow; then a ridge of earth is thrown up on the lower side of the furrow, and it is completed.

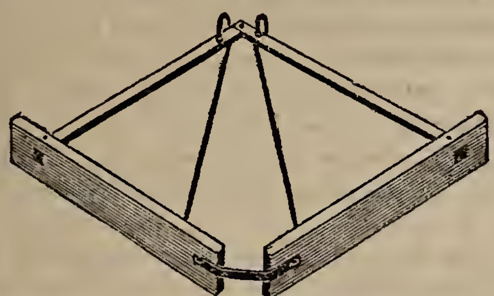
All the difference in the two modes is, (if you are driving fast,) one will throw you out sideways, while the other will hoist you perpendicularly, unless you hang well to the vehicle; and thus you will jolt over them until fall; when the earth by frequent rains becomes soft, the wheels of a loaded wagon will cut through them, and the water will take its usual course, carrying the misplaced earth with it, when a break is most needed. And so it is year after year, jolt, jolt.

Now it is very easy to talk about road-making, but theory and practice are sometimes wide apart. Water does more injury to the road-bed than the travel, either by remaining in the wheel tracks and hollows or by washing. For when the road is dry there will be no ruts or holes made; the travel will make and keep them smooth.

Districts that have stone (that will break evenly,) or gravel, can have good roads if they will; but where neither of these is to be had, and other than a sandy soil, it is difficult to have good roads the year through.

The main object to be kept in view in repairing roads, is to keep the water that falls from the clouds, or comes from the melting of snowbanks, from remaining on or washing the road. The first can be remedied by keeping the track smooth; the latter, by proper breaks.

To make and keep a road smooth, take a team and plow in the spring while the earth is soft (or at any such time,) and plow a deep furrow on each side of the *travelled* part, turning it towards the centre; then when it becomes dry enough to pass over it, take a team or two of them, hitched to a road-smoother built in the form and manner illustrated and described below, made heavy by putting extra weight on it at first—pass so that the smoother will work the furrow toward the centre, down one side and back on the other, and so continue doing until you reach the centre.



ROAD-SMOOTHER.

This road-smoother is made by taking hard wood plank, 6 feet long, 15 inches wide, 3 thick, with arms of 3 by 4 scantling, morticed through the plank 13 inches from each end. The other ends halved together with an iron bolt through them to make strong. Two plow clevises are used on the ends of the arms for the team to be hitched to, and a clasp of iron with staples is fixed on behind of the plank in such a manner as to keep the two some 10 inches apart, that the extra dirt and stone can work through. A plate of iron is placed on the front side, at the bottom of the plank, as wood would soon wear off. Old saw-mill saws are used as the best.

Before using the smoother, have all the fast stone dug or pounded out, and afterwards with team and wagon pick up all the stone from the size of a walnut upwards—the smooth to be used,—and stone picked up at intervals through the season, so that if you are out of a night you can drive home on a good round trot without fear or trembling.

These furrows will hold the earth that would be carried into the ditch,—raising the ditch and lowering the road,—and by using the plow in this furrow occasionally, you have this earth to fill the ruts and holes, and tend to raise the road. A little earth carried on at a time will become hard, while the usual amount will not. It is surprising to see what large holes can be filled with this furrow of earth.

The road being hard and smooth when the rains come, most of the water will run off, and what is left is spread over a greater surface; the evaporation being greater, the road is soon dry.

To make a water break, use stone pounded fine, covering the road from side to side—little the highest in the middle—make the rise long and gradual, for then the wagon will pass over without any jolt, and length of stone bed long enough to bear up the load until the force of the team and wagon is overcome—then continue the grade with earth, that there may be no dropping down of team or wagon. Such a break will last years.

Why, Mr. Editor, I fairly ache all over now while writing about road making, knowing the thumping, jolting, pounding and splashing one has to endure every time he passes over the road. It was but yesterday I passed by fast stone eight or ten inches high, and as much across, that wagon wheels had worn much, and at the same time people cursing the mechanic for using such poor timber and iron.

I hope the subject of road making will be kept before the public often enough and long enough until they become convinced of the bad use they are making of self, teams and vehicles. ONONDAGA.

CORN ON SWARD.

MESSRS. EDITORS—In reply to L. R., how he "shall manage for corn on sward," allow me to suggest my method. Early in the spring apply a good coating of fresh, green or coarse manure, and just before he wishes to plant, strike it out or ridge it by turning two furrows together so that they will just meet, thereby covering the manure, leaving a narrow balk between the ridges, so that the rows will be about four feet apart. Plant lengthwise, about two feet apart, three kernels in the hill—plow up the balk, and cultivate without breaking the ridges. If he wishes to test the two methods, let him try part of the field as the CO. GENT. proposes, and the other as I propose, and report the result. If his field is sidehill, begin at the top to ridge. B. H. ANDREWS. *Waterbury, Conn.*

The Nebraska Seedling Gooseberry.

This gooseberry is a seedling of the Nebraska Prolific. It is larger than Houghton, or any American variety—the fruit brilliant green with light pink, as in the Lancashire varieties. The flavor of the fruit is superior to twenty of the most popular English kinds, grown side by side the past season, and this was the decision of many gentlemen this season, who ate the fruit. It will not mildew in any climate where the gooseberry grows. It bears enormous crops of fruit, very nearly, in clusters.

The canes are very upright, growing about four feet high, thickly set with deep red thorns; the fruit is set upon long stems, hanging well out from the canes, and the fruit can be picked with little danger of wounding the fingers. I have sent a few plants to eastern cultivators, to test them in other localities.

Nursery Hill, Nebraska. R. O. THOMPSON.

Recipe for Milk-Rising Bread.

I see you wish to receive a receipt for making milk-rising bread. I therefore give you a grand receipt for making it.

Take two cups of boiling water, two cups of new milk, and one teaspoonful of saleratus—make a batter of it, and put it in a tin pail to rise. Keep the water a little more than luke-warm. The cause of its turning acid is not being kept warm enough, and letting it stand too long.

Try this receipt, and if your bread is not good, send it all to me and I will send you good in return.

MARY D.

CRACKS IN COW'S TEATS.—Glycerine is the best article for curing cracks in cow's teats. It is healing and cooling, and should be applied twice a day after milking.

DRAINING A SWAMP.

Messrs. Editors—I desire to improve some eighty acres of swamp land, and will thank you to advise me how to proceed. Part of the land is overflowed from April to August, and at such times has the form and appearance of a lake; but having no outlet the water lies there until it evaporates or dries up during the summer. The overflow is caused by thawing of the deep snows after winter. There are 50 acres thus overflowed. The face of the land is clear of timber and brush of all kinds, except about two acres which dry up first, and on which I have cranberries growing. The balance of the 80 acres is covered with swamp muck, two or three feet deep, on a portion of which grow large rushes six, seven or eight feet high, with a border of six or eight rods of wire grass.

I propose to cut a ditch one-half a mile long, averaging 22 inches deep, with 22 inches fall in the distance named. Would this draw off all the water and answer my purpose?

I find a mixture of sand and blue marl underlies the swamp muck; but where the grass grows is a mixture of swamp muck and white sand. Will it pay to drain it? Can it then be plowed, or will it answer better for meadows? If the latter is advisable what kind of grass will be best adapted to the ground?

Some of my neighbors tell me that when drained the piece of ground will be good for nothing, while others assert it will be a great improvement. Will the editors and readers of the Co. Gent. come to my aid with such advice as experience will recommend?

Manisteo, Mich. HUGH McGUINEAS.

There is no question that the drainage of this swamp, if properly done, would soon render it a very valuable piece of land, yielding heavy crops of grass, corn, &c. Our correspondent omits to inform us what amount of descent may be obtained for a main drain cut several feet deep, as it should be, or whether this would be at all practicable. By cutting off all surface water which comes down upon it from surrounding lands the drainage would be more easily effected. A channel of water 2 feet wide and 1 foot deep, descending 22 inches in half a mile, flowing through a smooth, uniform and even bed, would, according to the rule given in Thomas' Farm Implements, page 192, discharge about two cubic feet per second, or fifteen hogsheads per minute. This would be over 20,000 hogsheads every 24 hours. The next question is to ascertain whether this will be sufficient for the drainage of the eighty acres. An inch of water is equal to 360 hogsheads per acre, or would be nearly 30,000 hogsheads for the 80 acres. The ditch, therefore, of the size and descent we have mentioned, would carry off two-thirds of an inch every day, which would be sufficient on ordinary occasions, but in time of thaws and heavy rains, especially if water comes down from adjacent lands, it would not well answer the desired purpose. It would be better, therefore, to make it more than twice the width unless it can be cut correspondingly deep. A wide, open main drain through the centre of the swamp, into which branches could discharge at regular intervals would doubtless effect a complete and perfect drainage, and render the land equal in value to any in the country. After the work is accomplished, should the soil prove too light and porous, a moderate dressing of heavier soil, or of subsoil thrown up from below, would probably prove of great value.

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Breeding and Management of Colts—II.

The choice of stallion must depend very much upon the mare intended to breed from. There should be a mutual adaptation between sire and dam; and, taking it for granted that every farmer owns a brood mare, the next thing to be done is to select a horse that is in every respect calculated to cross well with the mare he has, which is by no means an easy task, for the horse that strikes our fancy is not always the one to cross well with our particular mare. He may be too large, too small, or too nearly related to make it advisable to breed from him; and there is another thing always to be borne in mind—some strains of blood cross well with other particular strains or families, while on the contrary, there are crosses that never produce satisfactory results. We have an illustration of the former class, where a great many readers of the Co. Gent. have an opportunity of observing it. It is well known that Hamiltonian crosses remarkably well with mares of old American Star get, so much so that it rarely fails to produce an uncommonly fine animal. When this is known, it is good judgment to follow what appears to be a sure method rather than experiment, and on the other hand it is just as good judgment to avoid crosses that experience has taught us result in disappointment. Blood should be on the sire's side. This is another important matter.

As long as we put our mares to horses of purer and better blood than they are, we are improving instead of degrading our stock of horses. A great many farmers think that blood is of no consequence except for racing purposes, but it is just as much more valuable than our common stock before a plow, as it is on the turf. To have quickness of action, endurance, or lasting qualities, some thorough blood is required. Well bred horses are less liable to accident or disease, bone affections, &c., than cold-blooded stock; they keep easier, and will perform more labor on less feed, and as a general thing will live to a greater age. It makes a great difference to a farmer whether he has a team of well bred horses, that will plow two acres a day, or one of common stock that will only plow an acre and a half a day on the same feed or more, and there is that much difference, and it will increase as the two grow older. I do not wish to be understood that a thorough bred horse trained to run races is better for a plow horse than any other, for I do not think so, but a certain amount of thorough blood is necessary to make an energetic enduring horse for any purpose.

In choosing a stallion it should be done with reference to your own mare, and he should not vary in size above or below her, more than two inches, and should be short backed, close coupled, compact built, with round hips, not broad, and flaring like the brood mare's, a good set of limbs with plenty of bone, good feet, a good head, good temper, and thoroughly sound in every respect. If the mare is young the horse should be in his prime, or older than she is, but if she is old he should be younger, to give vigor and strength to the stock. If the mare is defective in any particular, she should not be put to a horse having the same defect, or even an opposite one, but one should be selected as perfect as possible in that respect.

Very small mares should not be put to enormously large horses, as no good can come of such a course, and it is not a good plan to put a very large mare to an exceedingly small horse. If one would be perfectly certain in breeding, some knowledge of the parents of both sire and dam is indispensable. If they and the parents are all sound and right, and the points all well adapted to each other, the offspring will certainly make a valuable animal. The improvement in the stock of horses in this country is owing to the breeders taking more thought on the subject; they have made it a study; by that means and experimenting, they have reduced it almost to a science.

The turf, and agricultural societies throughout the country, have done a great deal towards producing this result, and have very nearly done away with the old hap-hazard hit or miss away of breeding. All classes of breeders take more pains, and feel greater pride in their stock.

I suppose there never was so great a proportion of good horses in this country as at the present time.

Glen Cove, Aug. 25. H. C. W.

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WHY BEES ARE KEPT.

Messrs. Editors—Bees are kept to gather and store honey, for the benefit of their keepers. When this object cannot be secured, a swarm of bees is worth no more than a nest of hornets. When a locality is supplied with a sufficient number of colonies to gather the honey produced, additional swarms are not barely valueless, but are absolutely a nuisance. For so much honey as they gather and consume is taken from the general stock, without returns to the keeper. It is like boarding more help than can be employed to any advantage. A colony that will give as much surplus honey as five other colonies, is, to the proprietor and public, worth more than the five. For they not only give five dollars profit to the others five, but for their own wintering they draw upon the public stores, from the great field, for only thirty pounds, at twenty cents per pound, six dollars; while the five that give only the same amount of surplus, draw upon the field for one hundred and fifty pounds for their wintering, of the value of thirty dollars. Twenty-four dollars is thus lost from the public stores of honey in the field. This would make a difference of two hundred and forty dollars where fifty swarmers are kept, or ten non-swarmers; about one-half of which could be secured as surplus if non-swarmers are used for the gathering. It is much less trouble and occupies less time, to have charge of and examine one hive than five. This would be very sensibly and feelingly discovered, were we called to the care and frequent inspection of fifty hives instead of ten. If all the honey in the fields in one town was the property of one man, all the colonies he had, more than enough to gather the honey, would be a dead loss to him. What is true of one man is true of that distinguished individual, the public.

Mr. Quinby supposes a swarm of bees in a non-swarming hive, will gather and store five times as much surplus honey as the same swarm in a swarming hive. One will give one dollar's worth; the other will give five dollars worth. The non-swarmer will give as much as five swarmers. If so, a colony of bees in a non-swarming hive is worth more than five swarms in swarming hives. If a swarmer is worth five dollars, a non-swarmer is worth more than twenty-five dollars where the locality is fully stocked with bees.

If a man with ten swarms of bees in swarmer hives, is located where the country is fully stocked, he would be better off to place two swarms in non-swarmer hives, and turn eight into strained honey and wax, than to keep the ten. He would get the same surplus honey he does now; would receive, in addition, the value of his honey and wax from the eight swarms; and his honey pasture would be improved by retaining the two hundred and forty pounds which the eight swarms would draw from it for their wintering, besides what they consume in the summer, and would have the care of only two swarms instead of ten. If then the ten are worth fifty dollars to him now, with these advantages the two would be worth more than fifty dollars.

If he should have four non-swarmers instead of two, the four would be worth more than double what the ten are now, from the above considerations, and six would be worth more than three times as much. If his ten average him ten pounds each,—one hundred pounds in all,—two non-swarmers would give him one hundred pounds, $20; four would give him two hundred pounds, $40; and six would give him three hundred pounds, $60. This would be the interest of $1,000 at 6 per cent. Six non-swarmers would gather as much honey from the same field as the ten swarmers, and place one-half of it in the surplus boxes. I think all this may be realized; but allow a margin of one-half, it is still doing more than three times as well as to use swarmers.

JASPER HAZEN.

Note.—Should the reader discover any fallacy or error in this communication, the writer would thank him to point it out.

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HOW TO DESTROY BRIERS.

Eds. Co. Gent.—In your number of Aug. 17th, F. H. T. of Springport, Ky., inquires how to eradicate briers and noxious shrubs.

I have had practical experince, and will give him my method. Any time in August or September, (pay no attention to the moon,) cut them as near the ground as practicable, then plow the ground thoroughly, or if not plowed, pasture it in the spring and summer; sheep are best. If any are left, cut again as above. Do not attempt it in the spring. The best way to increase and multiply them, is to plow them in the spring and let them alone, or sow to oats; by this means you will improve their growth immensely.

Loveland, Ohio. W. C. PINKHAM.

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The Hop Aphis and Buckwheat.—The Weekly Radii, published at Canajoharie, states that a hop-grower in the southern part of Schoharie county is confident of having discovered a remedy for the Hop Louse. This remedy "is not to destroy the insect, but to provide *some other object upon which the insect will commit its ravages*," and it is claimed that the desired result has been accomplished by sowing buckwheat in the hop yards. The discovery was accidentally made, but for two years has been tested, meeting with complete success. "In the case of the hop louse, it has been observed that those yards which were kept free of weeds were more affected with lice than those which were neglected; the inference seems to be that where no other vegetation is allowed in the yards, the ravages of the insect are necessarily confined to the hop, and if something else is provided upon which the insect will feed, the hop will escape its ravages. Buckwheat, being odoriferous, will attract the insect, and it probably offers more nutriment than the hop vine." The experiment is one easily tried; and we shall hope to hear reports of the success achieved.

How to Banish the Canada Thistle.

EDITORS CO. GENT.—In your number for August 17th, J. M. C. wants "directions for banishing the Canada Thistle." Now I reckon I am the very man who can give them. I have had a half century of experience, and began by cutting thick patches with a hoe, when a small boy. My father's directions were to "cut them off below the top of the ground." This order I faithfully, but wearisomely, carried out, two, three, or four times a year, with some diminution of the extent covered; but it was not successful practice in the way of banishment.

Now, J. M. C., hear and do. Plow your land this fall; put on a wheel cultivator next spring, in good season; furrow in shallow rows for planting potatoes, and plant Peach Blows, putting in small pieces, one foot apart in the row. When the shoots appear a little above the surface, pass over the ground with a Scotch harrow or its equivalent. In a short time hoe the potatoes and make it a point not to leave a thistle standing. If you have a cultivator, or some similar implement, it will materially help in the accomplishment of the work. Look *sharp*, very sharp, and allow the enemy no standing point. Repeat the process, and keep repeating it, at all times when the enemy appears.

I think you should hoe the potatoes not less than three times in the month of June, besides pulling out at other times, remembering June is the *nick* of time. Do not look for the old of the moon, the new of the moon, or the middle of the moon; but watch for the thistle during the whole of the moon. If you, J. M. C., are not persistent enough to banish the Canada thistle during the month of June, then the Canada thistle will be persistent enough to trouble you and goad your laziness. Faithfulness for one month will do much towards "banishing" the thistle; but time following must not be neglected, if you wish to secure perpetual and returnless banishment for the pest.

But will not Buckeyes or any other potatoes, do as well as Peach Blows? No, sir! Buckeyes are too early in ripening, and the vines are too short. Peach Blow, on the other hand, is a late potato; the vines are heavy and keep green later in the fall than any other potato with which I am acquainted. The heavy growth of the tops leaves little or no room for the thistles in the after part of the season.

Fall plowing is not very essential; but I would usually plow not less than seven inches deep, and at any rate make the soil mellow and fine.

J. M. C. you have the "directions for banishing the Canada thistle" which I have found very effectual for attaining the end in a single year—receiving such a fine crop of potatoes as to afford good returns for the whole of the labor. It is now for you to decide whether the thistle shall be *banished* or not. How do you vote?

What was Canada Thistle made for? For the double object of cultivating the ground for man's use, and compelling man to cultivate the ground for his own benefit—to banish idlenesss, the scourge and curse of humanity, high or low, rich and poor. The deeply penetrating shouldered roots of the Canada Thistle search all the ground for life and growth, and bring to the surface in successive seasons, vegetable matter, which, decaying, enriches the land, and thus prepares the way for the husbandman. The tiller of the soil must then banish the preceding elaborator, and show, by his industry, that he is worthy to succeed; and, also, that he is willing to occupy the land from which he seeks to dispossess an occupant, appointed by the Creator to hold possession until earth's rightful tenant evinces sufficient faith and patience to subdue it

Snap Dragon

I presume may be exterminated by a similar process. My only experience in regard to "Butter and Eggs" being this: Several years ago our cemetery was infested with Snap Dragon, set out to beautify the graves of the dead. Its steady enroachments threatened to occupy the whole area, and the evil was pronounced incurable. One or two individuals, whose faith in tradition was of the Thomastic order, moved a subscription to banish the evil. A person was engaged to hoe over the ground several times in the summer. The second year appearances were very small and thin; and no sign of the plant is now visible there.

What is the use of Snap Dragon? To teach men perseverance and punish such as refuse to learn.

Cheektowaga, N. Y. E. S. E. PRIMAS.

Buckwheat in "the Moon" and other Items.

MESSRS. EDITORS—I am a subscriber to your valuable sheet, and propose to contribute a few thoughts, more particularly to call forth the opinions of others, thereby gaining information for myself; yet should some thought edify the reader, I should be happy. Firstly I will speak of buckwheat. It is my observation, (having heard it remarked too,) that this grain, sowed in old moon, will all be ripe at once, while that sowed in new moon will be somewhat in blossom, some berries green, and some ripe at cutting time. What does the reader say?

Tying Horses Head and Feet.—For the benefit of my associate farmers, I will say that I came well nigh injuring a valuable unruly horse for life, by tying her head and feet in pasture. Has any reader such experience, and if so, what was the effect?

Bleeding Cattle.—I find that splitting the tail of cattle about an inch, is the easiest and best way to bleed them. I let them bleed a day or two, till very weak; then if it does not stop, I tie up the tail with rye bran or flour. I find they fatten very rapidly after that. What says the reader?

Canada Thistles.—I have concluded that thistles will grow three years from the root, and if kept from seeding for that time, and not plowed, they will die out entirely. I find that sheep well salted will keep them from seeding, and in the above length of time will entirely kill them. Now I have such a lot which I wish to seed. Can I not cross-harrow it with a sharp heavy drag, and then sow my seed? Would it do well? Who has tried it?

Cook's Patent Spring Whiffletree.—I have a young and very fine team, and with this whiffletree can plow, drag, or mow among rocks, stumps or stubs, without any fears of banging my team or breaking my tools. No farmer should be without it, who has such obstructions in his land.

Plow vs. Cultivator.—In raising corn I entirely ignore a cultivator, although I have one of the best. My reasons are to wit., the cultivator may run as deep as the plow, but how? Just at the middle of the space between the rows, whereas I want the land-side of my plow leaned down close to the corn when it is but four inches high, so that it shakes the hill. Here, fellow farmer, you strike for long ears. The cultivator is very good where grass abounds, but I want the plow used just as much. I have tried muck in the hill this year, and believe it most excellent. What say you?

Curing Hay in Barn.--Say, farmer, if you have put that load of hay in rather green, before you put any more on that mow, (after it has laid over night or longer,) just stir it up, and you will get dollars for a few minutes work. Previous to a storm I sometimes have a load or so out quite green; if I have time I draw it in and put on poles, and scatter it around the barn, and the next day or more, go and stir it over, and if it has sweat, put it in the mow. I rather do this than to puddle it in the field after a long rain, and it is certainly worth double. I did so to such an extent one season, that my neighbors said I did not cure my hay at all, but they did not know much I stirred in the barn. Yet in the winter I had the name of having the brightest hay in the neighborhood. Now, Mr. Editor, in writing such a long unconnected gingle, I fear I have weared your patience. I have twice more such subjects which I thought to put in this scrip, but fearing these are not worth publishing, I will close for the present. H. C.

Hillsdale, N. Y., July 10, 1865.

FARMING IN CONNECTICUT.

Farming in Connecticut, as in other parts of our land in like circumstances, has very serious difficulties to encounter, some of them almost fatal to success. It shows the energy of the people, that against such impediments they do accomplish so much.

The first I notice is the subdivision of the land, so that farmers hold their land in several detached and often widely separated parcels. In a recent journey into the south part of the State, I came in repeated instances upon a wagon or cart by the side of the highway, loaded with the implements and provisions for the day—the owner in the field at work a mile or two from his home. Again and again I met companies of laborers in wagons with their tools, going to distant fields to their work. When I thought of the time spent in travel, the expense of hauling the manure and crops such a distance, the difficulty of watching over the crops or the stock so far from home, and many other inconveniences which occur to us, I wondered that they have so many good crops. The extent of this evil is almost incredible, to those who have their farms in a compact and convenient form.

Another evil is that their farms are often too small. It is well understood that a small farm cannot be managed with the same relative expense of teams, implements, labor, &c., as a large one. And there is not business enough, and profit enough, to satisfy an enterprising Yankee. This brings me to another cause of discouragement to the farmers. They are surrounded by those who are most successfully engaged in mechanical and manufacturing pursuits, and who seem to be making fortunes in less time and with less labor than the farmers require. This draws from the farm a great many of the most enterprising of the young men, who are not content to follow so slow a business. Some of them succeed in making a fortune far beyond the expectation of a small farmer, and this makes farming, in view of many, a second or third-rate business, and it loses its respectable standing, and of course is less inviting to those who are ambitious to occupy the best places. And the same cause also affects the price of labor, and makes suitable farm laborers very difficult to be obtained. The skillful hands are better paid in the shops and factories, and shipyards, or they go on to the water. I was told by a farmer who lives near the salt water, that he could not hire a man for two dollars and a half a day, who could make three dollars, by catching claims, and not work all day. It is plain that their farming, with all the other disadvantages, cannot pay such prices for labor.

These impediments are more potent than any unfriendliness of soil or obstructions from the rocks, for these yielded to the persevering energy of other generations. And there are districts now, out of the reach of these untoward influences, where the success of well directed labor over natural disadvantages commands our highest admiration. But there are many districts of the State where the work of culture has ceased to be progressive; the wilderness begins to return again upon the fields of civilization; and the forest, the brambles, and the sedges and brakes, have got possession of many a fair field, and have surrounded many others, while the owners are retreating, and holding the remainder by a doubtful contest.

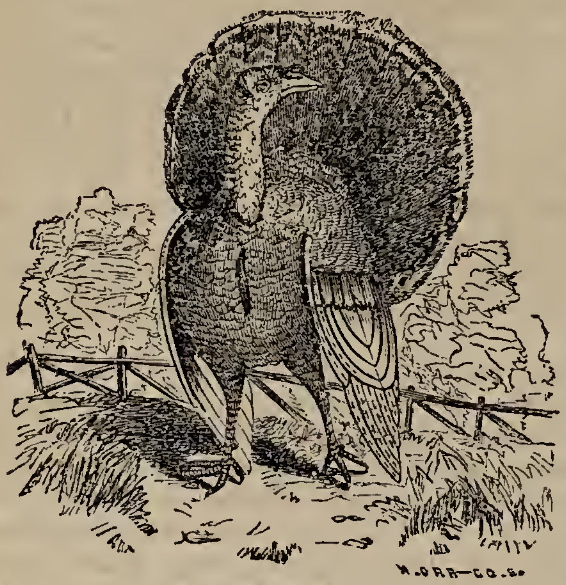
Duchess Co., N. Y. N. R.

What Produces the Currant Worm?

Dr. FITCH says a miller; several others say a certain yellow fly. I say I don't know, but I think that this question is not fully settled. Several weeks since seeing one of these yellow flies (which were then very numerous, though the miller described by Dr. Fitch I have never been able to find,) alight upon a currant leaf near me, I concluded to watch it. After remaining quiet a few minutes, it commenced perambulating the leaf, going first to one side of the leaf, then to another, till it had passed over every part of its surface. It then made a circuit of the entire leaf, carefully scrutinizing every part of its margin. Having finished its examination, it went upon the under side of the leaf, and began to deposit its eggs upon one of the mid-veins. After watching it a few minutes I picked the leaf, when I found four or five small white eggs which the fly had laid, similar in all respects to those which are found so abundantly upon the under surface of currant leaves, and generally understood to be currant-worm eggs. I have killed many of these flies, and almost invariably have found their abdomens filled with the same white eggs. I acknowledge that my observation does not establish any fact, but it shakes my confidence somewhat in Dr. Fitch's conclusion. If Dr. Fitch would give us the natural history of this yellow fly, or any farther information he may possess respecting the origin of the currant-worm, it might help settle this, in my opinion, yet unsettled question. J. H. P. *Franklin, N. Y.*

THE DOMESTIC TURKEY.

We have spoken of the turkey of nature; we will now treat of the turkey of art—that is the domestic turkey, that makes so interesting a part of our rural economy. They are, next to the common fowl, the most important, useful and valuable of domestic birds, and at the same time that which requires the greatest care in the first months of its existence. When once reared, however, every temperature seems to agree with it.



THE DOMESTIC TURKEY.

To describe the domestic turkey is superfluous; the voice of the male, the changeable colors of the skin of the head and the neck, his proud strut, with expanded tail and lowered wings, jarring on the ground; his irascibility, which is readily excited by a red or scarlet color, are points with which all are conversant. Turkey-cocks are pugnacious and vindictive, and ill-treat the hens. They have been known to attack children; and combats between them and the game-cock have taken place, in which the latter was more oppressed by the weight of his antagonist than by his gladiatorial skill; in fact the bulky hero has been worsted, as he cannot use his spurs with the address exhibited by the game-cock, which, moreover, fights with method.

The antipathy which the turkey-cock entertains for anything of a red color is well known, and, indeed, will never be forgotten by the writer, who at about the age of eight years, having on a red flannel garment, was chased by two of them around a very extensive yard, to our most terrible affright and discomfiture.

The adult turkey, it is well known, is extremely hardy, and bears the rigors of our coldest winters with impunity, even in the open air; for, during the severest weather, flocks will frequently roost at night upon the roof a barn or the branches of tall trees, preferring such accommodations to in-door roosts. The impatience of restraint and restlessness of the turkey, render it unfit company for fowls in their dormitory; in fact the fowl-house is altogether an improper place for these large birds, which require open sheds and high perches, and altogether as much freedom as is consistent with their safety.

Although turkeys will roost, even during the winter months, on trees, it is by no means recommended that this should be allowed, as the feet of those birds are apt to become frost-bitten from such exposure to the air, on the sudden decline of the temperature far below the freezing point. It must be remembered that the domestic turkey, hardy as it is when adult, is not equal in point of endurance, to its wild relative, bred in the woods and inured to the elements.

Turkeys are fond of roaming about pastures, fences, and the borders of fields· they love to visit turnip patches, where, besides the leaves of the turnips, which they relish, they find insects, snails, slugs, etc., which they greedily devour. They feast on grasshoppers. In the morning they should have a good supply of grain, and after their return from their wanderings another feed. By this plan not only will the due return home of the flock be insured, but the birds will be kept in good store condition, and ready at any time to be put upon fattening diet. Never let them be in poor condition. This is an axiom in the treatment of all poultry—it is difficult and takes a long time to bring a bird into proper condition, which has been penuriously fed or half-starved.

To the careful observer its habits are interesting, although somewhat eccentric; and what is greatly in their favor, the more we study these habits the more we are pleased with them. There is one trait in the male that is never unobserved. His shouts of exultation when surrounded by female companions, and when calling together their broods of young, may sometimes be heard half a mile. It is wonderful to observe how the little progeny will respond to his voice, if at a distance of twenty or thirty rods in the rear, as led by him in their daily explorations for food, and especially at the close of day, when returning for repose at their usual place of rendezvous and spending the night. It cannot be denied, however, that in this latter respect turkeys are deficient in punctuality, and are sometimes overtaken by night before reaching home. If so, they make an encampment wherever they happen to be. But this is not the result of indifference to home, but a defect in the science of geometry, not remembering how far they have wandered from it, or to a deficiency of astronomical observation, not having observed how rapidly time had sped.

The well-fed male turkey, especially if rendered sociable by a numerous family of female attendants, is a very important character about the homestead. No one is more tenacious of his rights or more complacent in the enjoyment of them. He is an original character, truly; but he has numerous imitators. The incessant pompous display of his plumage has ever been deemed an appropriate counterpart of the human-exterior embellishment to attract attention, beyond any claims founded on intrinsic merit. We cannot fail to be amused on seeing either of these animals of the masculine gender thus struggling for the ascendancy; but we cherish less respect for the one in broad-cloth, than his prototype in feathers. Indeed, the latter, although not celebrated for his endowments, presents more intelligence than is usually attributed to him; and, moreover, as the representative of his family, occupies no inferior rank in respectability or elements of being useful. He is led by instinct, if not by reason, to be a pattern of devotion to the safety of the community of which he is the legitimate head. He watches over the turkey chicks with the assiduity of the most faithful shepherd when guarding his flocks. He will never leave them, and is apparently unmindful of his own wants, so long as they require his watchful care. C. N. Bement.

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Smut in Wheat and how to Prevent it.—Take one pound of blue oil of vitriol—dissolve it in two or three quarts of boiling hot water, in some earthen vessel. Then put it in a pail and fill with cold water. Now take ten bushels of seed wheat, on the barn floor, and sprinkle this solution all over it, and shovel it thoroughly, so that every kernel is wet, and in two or three hours it is ready to sow. You may keep it longer just as well, if you dry it and keep it from heating. This receipt is efficient, but if you have very smutty wheat you may raise a little smut the next year, but none after that. O. Pr. *Calumet, Wis.*

RAISING TROUT.

[In reply to the inquiry of our correspondent C. W. G., we have been kindly favored with the following answer by S. H. AINSWORTH, Esq., of West Bloomfield, N. Y., who has had much experience in the management of trout and trout ponds.]

EDS. CO. GENT.—Yours of the 2d, requesting me to answer the following inquiries of one of your subscribers, C. W. G., as to the best method of constructing dams for trout ponds came to hand yesterday:

“ 1. How many ponds are necessary to grow trout successfully ?

‘ 2. Should the muck be removed from the bottom of the ponds ?

“ 3. How deep should the water be in the different ponds ?

“ 4. Would it be a good plan to put large rocks into them for hiding places for the trout ?”

Had C. W. G. said whether he intended to raise trout naturally or artificially, I should have known precisely what to say in answer. The requisite fixtures and plans for the two methods are quite different. I infer however from his inquiries that he intends to breed them naturally, therefore will answer each question accordingly, and in as few words as possible.

The cheapest and probably the best way for C. W. G. to build his dam is with dirt. The dam should be at least 12 feet wide on the top, with a grade of 45 deg. each way, to make it perfectly secure. There must be a sluice put in at the bottom of the dam of sufficient size to drain off the water at will—say from 6 to 12 inches in diameter, according to the size of the stream that feeds the pond. This sluice can be made of 2 inch white oak plank, with a valve at the upper end to let off the water, in place of a gate, which is difficult to make tight.

The water must all be drawn off once in four years at least, and the bottom cleaned of all grass, leaves and vegetable deposit. Trout must have pure, clean, cold water, free from all vegetable decomposition, to increase, be healthy and thrive well.

There must be a flume on top of the dam, or in the bank at one end, of sufficient size to carry off the water at all times, with a wire screen, to prevent the trout from leaving the pond. They are slippery and hard fellows to keep, and will find every hole and improve every opportunity to run away. Hence the outlet must be thoroughly guarded with proper screens to keep the little beauties.

The size of the pond should be according to the volume and temperature of the water that supplies it. The water at the bottom of the pond should never be higher than 64 deg. for trout to do well ; when it becomes warmer than this, say from 75 to 85 deg., the large trout become sickly and die, generally with the congestion of the gills.

In water from 48 to 64 deg. they remain perfectly healthy, grow with great rapidity to a large size, say from 1 to 4 pounds weight each in a few years, if well fed, and look very bright and beautiful.

One pond will answer to grow trout in their natural way about as well as two or more.

The muck must all be removed, and the bottom of the pond covered with sand or gravel to keep the water clear and pure.

The water should be from 10 to 15 feet deep to grow large trout, and to keep the water cold at the bottom. The sun during clear, hot days in the summer will heat the water on top and around the shore to 80 deg. or more, according to the amount and temperature of the water supplying the pond.

The stream above the pond must be well cleared out, and covered with gravel from 2 to 4 inches deep, for spawning beds for the trout to deposit their spawn in. They commence spawning the first of November, and continue to the middle of January. The spawn will hatch in January, February and March, but the young fry will not come out of the gravel until April or May, as they live on the egg attached to them till that time, say from 40 to 60 days. When the egg is all absorbed then they come out to look for food, and are perfect trout, about 1½ inches long, very shy and active, and quick. At this time the parent trout will devour more or less of them unless well fed, but enough will likely escape the old ones to fill a good sized pond to over-flowing in a few years.

All surface water should be kept out of the stream and pond, at all times, so as to keep the water perfectly clear and pure, or the spawn will not hatch at all, or but poorly at best, and will soon all run out.

The small trout will keep in the stream and shallow water during the first year, so as to generally keep out of the way of the large ones, and take good care of themselves.

C. W. G. will find the more of the stream he clears and gravels above the pond for spawning grounds, the better.

Rocks for shade and hiding places for large trout will be very acceptable and beneficial to them.

I send you the following article on growing trout artificially, printed in the Rural New-Yorker sometime ago.

Further experience confirms all I said at that time, but I have learned much more about trout since.

West Bloomfield, Sept. 5. STEPHEN H. AINSWORTH.

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Equine Curiosities.—It may not be generally known, and so we place it on record, that Buffalo can now boast of having within its limits thirteen Shetland ponies, three of them the smallest in the United States. To her stock of half a score of Shetlands, Mrs. Dr. LORD has added three by recent importation, which are marvels of equine symmetry, strength and endurance, their extreme diminutiveness considered. This trio of little horses consists of a span of blacks, well mated, and 34 inches high, and a mouse colored poney 33 inches high. From a genuine lover of equine curiosities, we learn that Mrs. Lord sent Mr. William Simpson, a Scotchman, resident at Black Rock, to Scotland, in March last, for the sole purpose of obtaining two spans of Shetlands, of certain dimensions. The fairs at Glasgow, Edinburgh, Aberdeen and other places were visited, but it was only after a long and arduous search that the span of blacks could be found. The little mouse-colored fellow was found in an unfrequented place on the Shetland Islands, where he had been accustomed to feed on fish secured by himself from the water. A fourth was found in another remote corner of the Islands, but unfortunately died on the passage hither. The ponies were brought to this country in charge of Mr. Simpson, on a sail vessel : and after a voyage of between 40 and 50 days, most of which time the animals swung between decks, they reached terra firma in good condition. By the death of one of the quartette, the cost of the three ponies of which we write, does not fall short of $1200. Mrs. Dr. Lord has displayed decided enterprise, and we are pleased to note her success in the matter of procuring *the* three smallest Shetland ponies to be found in this country.—*Buffalo Courier.*

Concreting for Building Purposes.

Our friend "W." in his article of August 3d, does not over estimate the cheapness and utility of this new method of building. But it is necessary to obtain some practical knowledge of the materials and method of putting them together. If W. has plenty of sandstone, he has just the right material to put up any house of any capacity. Let me say for the benefit of all concerned, that where such stone as this abounds, you have only to lay your foundation with substantial stone, or if such are not at hand, dig your trench for the wall, and mix sand, gravel and water lime together, throw in all sorts of stone with enough of the mixture to make all solid. When filled up to level with the surface, attach boards to each side of the wall, and raise the whole 18 inches, by filling up with the like material, crowding in all the stone it will receive. Now you are ready to proceed with the structure, having a foundation that will stand the wet and frost. Stone lime may now be used in place of the water lime, it answering just as good purpose on dry work. But you can proceed with the wall no faster than it will dry; ordinarily about two or three feet per day, with cobble stone. With sand stone, however, you may pack in the stone and mortar, layer upon layer, as fast as you please. Such stone could be laid to line and plastered on the outside, like the building for the insane, at Hartford, Ct. If the stones are in all shapes and sizes, I should prefer the boards, as being the most expeditious and convenient. As a guide to the structure, have some scantling raised on the corners, plumbed and fastened with cleets nailed on each side for the outside boards to slide up in and hold them in place. Put strips across the wall for boards to rest on when raised, with some to correspond on top, and run pins down through both on outer side.

Fine sand, or that which is mixed with earth, will not harden. The coarser the material, the harder and better for the wall, or the rough coating on the sides. In West Jersey the people dig up the gravel and mix it with water lime, so as to make a good mortar, which is cast in blocks of any required size.

I am about to build a house for a man in Massachusetts, which I shall raise to first floor with stone and mortar packed in boards, as already described. For the remaining stories I shall mix a bed of stone lime and gravel mortar. I shall mix with this as fast as used, a half barrel of water lime to one of stone lime. This mixture to be cast into blocks, with any amount of cobble stone that can be crowded into the boxes.

The object in using the water lime is to facilitate the hardening process, so as to hasten the work. The corner blocks will project alternately four inches on each side, to give increased beauty and effect. The whole will be rough coated and penciled in imitation of free stone, giving an exterior finish which will not suffer in comparision with many a city mansion.

I claim for this mode of building, great durability and cheapness. No oil paint is required on the walls. Rats can find no lodgment. Vines may be trained over the surface either for fruit or ornament. Farm hands can perform most of the work. It is cool in summer and warm in winter. Let the roof project 18 inches, and do not suffer the water to spatter against the base and freeze.

I hope I have given points of information sufficient to enable the people every where to construct their own houses from material at hand. Where the blocks are cast, the work is done quickly. The long, tedious, and expensive job of carpenters, joiners, and painters, is avoided. Farmers can adorn their grounds with neat and substantial out-buildings, and the poor need not be houseless.

Use good material, well mixed and properly put together, and you need not fail. A. L. L. *Granby, Conn.*

COTSWOLD SHEEP.

The late test of the Wool Growers' Association, as to the comparative loss of different wools by thorough cleansing, will have its good effect on the public. The Merino Wool Growers have, through the Agricultural press, by their reports of enormous fleeces in the grease, made the impression on the public that the fine wool families were as much superior to the English Combing wool breeds, in the *quantity* of wool they produced, as in the *quality*. This test puts all such assertions in their proper light before the Wool Growers of this country, and the introduction of new machinery, and new forms of fabrics, for want of cotton supply, has enhanced the value of all combing wools in England and America, and has placed their commercial value nearly equal, pound for pound, with the ordinary felting or fine wools. The latter fact, in connection with the late test, must have a great tendency to increase the flocks of Cotswold and other combing wool breeds in America, in all proper situations, viz., where the pasturage is rich and the soil strong, and population most dense, and butcher's meat in most demand. Let the Merinos be consigned to cheap and thin soils and grasses, and to remote localities far away from the great centres of trade and population, where no demand exists for butcher's meat; there let them live and increase during their natural lives, producing wool alone, and they will be found in their appropriate and most profitable sphere.

The Cotswold is a highly improved animal, having to perfection all the high feeding qualities of the best short horn cattle, and will make from a given amount of rich food as much return in butcher's meat as any other animal of any species, and of more value per pound in the city markets when made, than the first class beef. They thrive only in small flocks and with high handling, rich food and plenty of it. With the sheep family they occupy the same class that the short horn does with cattle, that is the very best and cheapest machine the farmer can employ to manufacture his grain and grass into meat and manure. The percentage of wool produced in the late test *relatively* to the weight of carcass is not a *fair one* so far as this particular breed is concerned. *It does it more than justice.* The specimen selected is the lightest carcassed yearling I have ever known, whilst its fleece is fully up to the average of yearlings. As a breeder of Cotswold sheep, I have never owned a yearling purely bred and well kept, that did not exceed the weight of this specimen from 25 to 60 per cent., and many yearlings might have been found weighing 160 lbs. and producing *no more wool.* I have weighed buck lambs from the teat, yeaned in March, in the following August, drawing 140 lbs. live weight. The heaviest fleece ever produced by this breed is at yearlings, if well kept. ANTHONY KILLGORE. *Stewartsville, Mo.*

THE GREAT THISTLE DESTROYER.

That greatest of curses with which the farmer has to contend, the Canada thistle, has at last found a deadly enemy in the shape of a black worm, 1½ inches in length, and resembling in size the common apple-tree caterpillar, except that it is arrayed with a large number of horns or shields along its back and sides, while the caterpillars are covered with hair or down. These horns are so hard that you may press on them from the outer end until they pierce its body, without bending or breaking them in the least. Thus it would seem that nature has provided them with an armament resembling the plant which it destroys. This worm feeds upon nothing but Canada thistles and large briars, (vulgarly called bull thistles,) on which it feeds with avidity, eating night and day. I have seen twenty of these worms on a thistle not more than a foot in height, all using their masticators in real worm style. They completely strip the thistle from every sign of a leaf, leaving nothing but the stalk and larger branches. They made their appearance in this town but a few weeks since, and judging by worms of a like character, I think that this worm will increase in such quantities that within a very few years this greatest of pests will be exterminated from the soil. Success to this worm.

Barrington, N. Y. L. D. SNOOK.

IRON PIPE FOR CONVEYING WATER.

In compliance with the wish of a correspondent in the Co. GENT., for Aug. 24, I send my experience with iron gas pipe for leading water:

About ten years ago I laid 130 rods of one-half inch iron pipe, leading from a large spring of very pure soft water. With the exception of four or five rods the surface is level; the soil is a dry gravel or loam.

In less than two years the pipe filled with sediment and oxide, so that it became necessary to relay and clean nearly all of it. I then placed wooden blocks or tubes at intervals of about 20 rods, and when it became necessary to clean the pipe, which was about once in two years, I did so by inserting an iron tube perpendicularly in the wooden tube, and then by a swab or plunger force the water and sediment out of a similar orifice in the next wooden tube. In this manner the pipe was cleaned for the first six years. It then commenced leaking, and upon examination, the water acting upon the iron had caused scales or blisters to nearly fill the bore, which, catching the sediment and oxide, prevented the cleaning by the usual process. Similar blisters were produced by the soil on the outside of the pipe, which in many cases extended through it, allowing the water to escape. Some of the pieces had to be removed, others were repaired by the use of tinner's solder, the iron first having been filed bright, and covered with a solution of muriate of zinc. By thus continually repairing, it has been used to the present time, and now the water scarcely drops, having not been disturbed for nearly 18 months. It must be relaid this fall. For a few rods through blue clay the water is lead by pine logs, which have been in use about thirty years, and are now sound.

From my experience I have come to the following conclusions: 1st. That iron gas pipe is not available or economical in leading pure soft water, a long distance, owing to the liability of the pipe to fill with blisters of oxide and sediment. 2d. That wooden blocks or tubes should be inserted at intervals of not more than ten or fifteen rods to facilitate cleaning the pipe. 3d. That the pipe used should not be less than one inch bore. 4th. That pine logs form the best tubing for blue clay.

As the tubing to my water must be relaid this fall, will some of your correspondents inform me—1st. Whether iron pipe is thus affected by *hard water*. 2d. Whether coated or galvanized iron pipe is liable to oxidation. 3d. The number of years it will remain in such service available. 4th. Whether tiling of 1 or 1¼ inch bore, similar to that used for pumps, can be procured, and at what cost per rod. 5th. Whether it will bear the strain of raising water twenty feet.

Rockdale, Chen. Co., N. Y. S. A. F.

How to Cook the Egg Plant.

An "OLD HOUSEKEEER" sends a West India receipt for cooking egg plant: Take the skin from the egg plant, cut it in slices of about a quarter of an inch thick, *round* the egg. Begin with the first cut slice—*shake* on some black pepper and a large saltspoon of salt—add the same to each piece, and place them on top of each other. If a large egg, make two piles. Put them in a deep plate, and cover with another plate, on which place a flat iron, or any weight. Let them stand two or more hours. Put a piece of butter in a frying pan, and when hot lay in the slices of egg plant, and turn them to be brown on each side. Serve hot.

ELDERBERRY WINE.

A correspondent asks for a recipe to make Elderberry Wine. We have used the following with good success. The berries should be gathered when perfectly dry, and if one is very particular in regard to flavor, the berries separated from the stems, mash fine, then add two gallons boiling water to one of pumace, and let it stand until it begins to ferment. After pressing out the juice, add three pounds sugar to each gallon; put into clean casks, jugs, or demijohns, fill them full, and keep them full as it tends to fermentation; then cork up air-tight, or bottle off. It will be fit for use in four to six months, but will improve with age. If the quantity to be made is small, it may be pressed in a coarse strainer, or a piece of coarse cotton or flannel, or, what is better, a strong cask with holes thickly bored through it, and put under a hand cider-mill or cheese-press.

Holden, Mass. C. W. G.

Turnips and Grass in Connecticut.

It is a general practice about this section to cut the grass before the 25th of July, turn over the sward smoothly, spread on twelve to sixteen loads of fine manure, harrow the whole to a level, sow grass and turnip seed, and bush it in. In this way two good crops are obtained in one season. Two and three hundred bushels of turnips are obtained to the acre with very slight cost. This is practiced by some of our best farmers. We regard it as far more profitable than the mode of cultivation recommended by some of your correspondents. A. L. L. *Granby, Conn.*

NEW-YORK STATE FAIR.

The farmers of the State again met last week, for the twenty-fifth time since the re-organization of the Society, a quarter of a century ago, to attend its Annual Exhibition of the stock and products of New-York. A long drouth had just been followed by welcome rains, and Tuesday of the Fair week opened at Utica with a bright prospect for clear skies and a crowd. But Wednesday morning the first sounds were from the pattering drops of a heavy shower, renewed at intervals until 9 or 10 o'clock, when the clouds broke away and the sun shone out with July vehemence. The next day was very warm, and though bright overhead, there were constant fears of inconstant luck—fears fully realized by the tremendous thunder storm of the afternoon, sadly interfering with the coming and going of visitors. Friday was pleasant, but the interest of the week had gone, and sheds and stalls and tents were rapidly vacated or dismantled. The receipts of Thursday for admissions were something over $6,000, and the total from all resources $11,767.06—being nearly $400 larger than at the same place in 1863—a difference in a great extent due to the number of Life Memberships procured by the exertions of Mayor BUTTERFIELD and others interested in the prosperity and success of the Society.

The grounds were the same as those occupied in 1863, with some improvements and additions to the structures. The character of the exhibition as a whole was *good*—in some departments much less full and excellent than it might and *should* have been, but even in these not more sparse than has occasionally been the case before—while in others it was unusually rich and varied. Everything passed off pleasantly by day, and the evening meetings for discussion were well attended and otherwise fully maintained their former interest. Many of the Society's oldest friends and former officers were present, with numerous guests from abroad.

Following the order of the Premium List, with the first, CATTLE, we take up one of the weak points of the Exhibition. The display of *Short-Horns* was, in mere numbers, far from a fair representation of the herds of the State, and while in quality worthy of high praise, the lack of competition on the part of many leading breeders was an occasion of general regret. The same remarks apply, in still stronger force as regards sparsity, to the *Devons*. The *Herefords* of the State have seemed for some years to be comprised in a single herd, and it is well that this should continue to put in its annual appearance to remind us of the existence of the breed. The *Ayrshires* were a very pretty although limited show, and of the *Alderneys* little else can be said. *Grades* were numerous and good, and the turn-out of *Working Oxen* was one of the best points in this department. The *Fat Cattle* included nothing worthy of special remark.

The show of HORSES was much larger and better than that of Cattle, and would compare favorably in extent and quality with those of previous years. The splendid draft horses of the American Express Company added much to the display. Among SHEEP, the Long Wools were the weakest, by no means representing the extent to which the breeding of these sheep is now carried on in the State; the Middle Wools were good, but not in large numbers. The display of Merinos was large and excellent, including a number of exhibitors from Vermont, although we notice that New-York flocks appear to no disadvantage thereby in the Premium List. Among SWINE the large breeds were in unusually strong force.

The display of IMPLEMENTS has been seldom, if ever, excelled in this country. In this, as well as other departments, we present elsewhere more detailed reports, but cannot do otherwise here than commend the spirit thus shown by our manufacturers, and express the hope that they may continue to increase in the enterprise now manifested until our Show grounds really represent in a creditable way the improvements of American inventors and the workmanship of American mechanics. Even the full and excellent collections exhibited at Utica are thrown entirely into the shade by those which crowd the buildings at English Shows—a fact of which we are forcibly reminded by a catalogue now before us of the recent Royal Society's Show at Plymouth, in which the entries of implements reach the enormous number of 4,023.

Of the extensive display in the DAIRY department a full account will be found on another page, to which it need only be added here that the cheese shown was said to have been sold in one lot to C. D. FAULKNER, of the firm of JONES & Co. of Utica, at 17 cents per pound, to be handled by BUDLONG & STOKES and shipped to England.

The FLORAL TENT was neatly decorated and arranged, and in view of its being an unfavorable season for fruit, and too early for an extended show of grapes, the display was a creditable one. For details in this department we must refer to the List of prize awards, to be published hereafter.

—— Among the points of special interest which the present year's exhibition may be thought to have decided, one is undoubtedly the entire feasibility and practical value of the new classification of Merino Sheep. So far as we were able to ascertain it was received by breeders with entire satisfaction and if permanently continued, cannot but prove of essential service in the development of this most important interest.

The address was delivered on Thursday afternoon by Hon. G. W. SCHOFIELD of Pennsylvania, and was devoted mainly to the subject of Agricultural Education. Among the pleasant incidents of the week was a supper given at Bagg's Hotel, on Thursday evening by the city authorities to the officers of the Society and other invited guests.

Sentiments were proposed complimentary to the city of Utica, to the eminent gentlemen present, and to the State Agricultural Society. The responses were brief. Gov. Fenton responded pithily and appositely; Postmaster-General Dennison with elegance and admirable taste; Mayor Butterfield, sensibly and vigorously; Ex-Gov. Seymour and Hon. G. W. Scofield, humorously and well; Senator Cornell after the model of Gen. Grant. Hon. T. C. Peters, President of the Society, presided.

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Early Grapes.—The Hartford Courant, Aug. 10th, acknowledges from Mr. V. W. Whiting of Linden Place, bunches of ripe Hartford Prolific grapes, grown in the open air.

NEW-YORK STATE FAIR---1865.

[Reported for the Country Gentleman.]

Cattle.

Among the Short-Horns exhibited, Hon. Ezra Cornell of Ithaca presented several cows and heifers and one bull, in fine show condition, and adding much to the interest of this department. Among them we were pleased to see 3d Lord of Oxford, bred by Thorne, and recently sold by Mr. Cornell to an English purchaser, Mr. Harvey. This bull shows great improvement in appearance since the Fair at Rochester, last year, and while Mr. Harvey is to be congratulated on his acquisition, it must still be regretted that this country will lose the services of so good an animal. Among the females exhibited by Mr. Cornell, imported Fidget attracted much attention. Better still, and of great promise for the future, were Lucilla, two years old, who has already taken home the blue ribbon, and Lucretia, a very fine ripe yearling, plain in color, red and white, but remarkably well developed in all the strong points of a Short-Horn. Messrs. Wolcott & Campbell, New-York Mills, exhibited four Short-Horns--the bull Weehawken 2d, bred by James O. Sheldon, by Oxford Lad, dam Vara, &c., showing much of the neatness of head and substance of his sire; a young cow, Belmont, looking very much like Miss Bellville, the dam of Belmont, having the same neat head, horns, neck and fore-end generally; also a fine yearling by Iron Duke, and a good bull calf by the last named bull. The Thorndale herd was represented by a capital young son of 2d Grand Duke, Royal Guardsman, and we are sorry to say that here the show of Short Horns from Thorndale ended. A. M. Ritter showed a very large red bull of many fine points, and showy in general appearance.

E. Corning, Albany, showed several Herefords, all looking well, and good specimens of this well-known breed.

Wolcott & Campbell exhibited nine Ayrshires selected from their excellent herd, and of course good animals, including Baldy, 3 years'old, recently imported—as an Ayrshire rarely equalled, and in some points, having no superior on the ground of any breed; Tarbolton, 2 years, imported with the above, very neat, with the extremely fine heifer looking head and horns so much in fashion among the best breeders of Scotland; also Patie, an eleven months bull calf, and those who remember his grand sire, Kilburn, shown about 8 years ago, would at once recognize his breeding.

Sheep.

There were but few Cotswolds and Leicesters shown. The principal exhibitors of the former were Mr. Sayre of Oaks Corners, Ontario county, and Mr. Gazley of Duchess. In discussing the question of wool with the latter gentleman he mentioned that his Cotswold flock has for several years averaged well washed fleeces of *eight pounds per head*, and in the clip of 1865 the average was 10 lbs.! It will be remembered that he had a ram at Canandaigua shorn on the trial for cleansed fleeces. He said that if he had known of this prize previously to going to the show, he could doubtless have made selections from his flock that would overtop completely the Merinos in proportion to weight of body. His flock has averaged him, as to fecundity, three pair of twins in five, or eight lambs to five ewes. The breeding ewes average 200 lbs. live weight, and he has often got his yearlings up to the same figure. He exhibited five yearlings, five ewes and three ewe lambs, and found a large demand from purchasers. Among several sold by him on the grounds, were rams to Wm. Dunlop of Ovid, and Alex. Scott of Amsterdam.

South Downs were not out in very strong numbers, but the breed was well represented by contributions from the noted flocks of Saml. Thorne, Duchess Co., R. H. Avery, Madison, George H. Brown and Elihu Griffin, Duchess, and P. Lorillard, Westchester. A few were also shown by John Butterfield, Utica. The breeders of South Downs proved that their reputation is well supported by their success, and in case of two of Mr. Thorne's entries, the yearling ram No. 16 and the pen of yearling ewes, he perhaps surpassed anything of the same kind ever shown at our Fairs. Mr. Lorillard also exhibited excellent Shropshires, but his sheep we regret to say were open to the charge of stubble shearing, and some of his premiums were suspended when this fact was brought to the notice of the Board.

Merinos were out in great strength. Mr. Chamberlain had in charge of Carl, 64 of his choice Silesians, which seem to us to be increasing in size and beauty. New-York Merinos were well represented by Bennett & Beecher, Livonia, H. M. Boardman, Rushville, and E. Townsend of Genesee Co.,—the last named gentleman with a pen of extra lambs recently purchased from the well known breeder, F. H. Dean, West Cornwall, Vt. Good pens were also shown by Judge Pettibone and W. H. De Long of Vermont—the latter with his stock ram Gen. Grant. E. N. Wheeler, Middlebury, Vt., had a yearling, a good specimen of Gold Drop's get, and a number of excellent rams and ewes. L. J. Burgess, North Hoosic, exhibited three ewe lambs and same number of ram lambs of the Hammond stock, spoken of as well worthy of their pedigree. A. J. Jones and J. Hill were other leading exhibitors. D. W. Percey, North Hoosic, had a few superior ewes both of the Hammond and Rich strains, and his first prize ram at the Fair in 1864, from a Rich ewe by a Hammond ram, attracted special notice. M. G. Rapalee, Milo, Yates Co., showed a very large and showy ram by Sweepstakes.

Swine.

The show in the large breeds of Swine was exceedingly fine—including among exhibitors, P. Huffstater, Watertown, Jefferson Co., 20; A C. Clark of Henderson, 20; G. C. Palmer, 8; H. D. Jacobs, Adams, Jefferson County, 8; John Butterfield, 2; Brodie & Converse of Jefferson county, 7; and a number from the State Lunatic Asylum, exhibited by Wm. Pitham.

Horses.

The show of matched and single horses was large and splendid. Stallions of all work were exceedingly fine, and the competition in this class must have been close. Edwin Thorne of Orange county, showed Hamlet, 6 years old, sired by Volunteer, and he by Rysdyk's Hambletonian, of Orange county, and which took the first premium on horses of all work. He is a rich blood bay, stands 15¾, fine style, clean, thorough-bred head ear and neck, and has been driven by Hiram Woodruff in 2:34. He is a horse well calculated to produce first-class carriage horses, and the sum of $10.000 has been refused for him. Chester Wolcott's Pathfinder, from Trenton, Oneida county, a splendid black, sixteen hands high, took the second premium in this class. Mr. W. also exhibited Royal George, by old Royal George of Buffalo, a three years old, fifteen hands and three inches high, dapple brown, a beautiful and graceful animal, and promising to be very fleet.

The two years old and three years old colts, of all work, and the Black Hawks, made an exceedingly fine show. There were quite a number of Oneida county horses on exhibition. George Douglas, of Trenton, had a fine span of Black Hawks; L. R. Powell, of Holland Patent, a large and fine pair of four years old, 16 hands; W. Tanner, of Holland Patent, showed two single horses, one five and the other three years old, a bay and gray, nice animals, and the latter taking the first premium. For further details we must refer to the list of Premiums.

Dairy Apparatus

The show of dairy apparatus was one of the best ever had at our State Fairs. Among the prominent exhibitors were W. Ralph & Co., Utica, who had eight of their celebrated factory vats, large size and with its present improvements one of the best of the many improved apparatuses for making cheese. They exhibited two styles of hoop—one galvanized iron and one of wood; six carrying milk cans; two weigh cans, ten cheese screws and syphons for drawing off whey. These last are very ingeniously contrived, and handy implements in cheese manufacture. O'Neil & Co., Utica, also had a large exhibition of dairy apparatus, three factory vats and three dairy vats and heaters. They showed 16 delivery cans, nicely got up, holding from 15 to 36 gallons; 46 cheese hoops, those made of cherry very smooth and handsome. Also 28 press screws; nine agitators; two cheese presses; 8 curd knives, two curd scups, and Jones's floating thermometers. They also have a new curd cutter, H Keenay's patent, which is to be attached to the vat and devales, passing from one end of the vat to the other by means of a cog wheel. It looks if it might be a very good implement. H. & E. F. Cooper, of Watertown, have also a fine display of their well-known dairy vats, with Maplers' improvement, now in general use in Jefferson county. In this connection we must not pass over the beautiful samples of bandage exhibited in dairy hall, by Jonathan Jones & Co., Utica, spoken of by experienced judges as the best in use.

Implements and Machinery.

One of the marked features of the Fair was the splendid exhibition of machinery, especially that in the field, which covered a large space, and occupied the whole central portion of the Fair grounds. The design or arrangement was a very happy conceit, and is due, we believe, to General Superintendent HAROLD and Mr. WOOD, the Superintendent of this department. This was, that all the farm implements and machines were arranged together, according to the season in which they were to be used.

To give a proper idea of this magnificent show of ingenuity and mechanical skill, a bird's eye view of the grounds will not be out of place.

The grounds were laid out in avenues at right angles, three broad avenues running east and west, and three north and south, crossing each other at right angles. In the center of the grounds, upon the four corners, made by the two central avenues, stands the President's office. Commencing at the foot of the South Avenue, running east and west, we find on the right, as we pass up, the spacious Dining Hall of the Society. Next is the Dairy Hall and Mechanics' Hall. On the left of this avenue, between South and Central Avenue, is a large space devoted to implements and machinery arranged in lines, and avenues between them. The front line is composed of plows, cultivators, and different machines for putting in crops. The next line is composed of drills, horse rakes, feed cutters, grain drills and broad cast sowers, hoes, pitchforks and all machines for putting in and working crops. The next line is composed of hay tedders, fanning mills, potato diggers, gang plows, wheat cultivators, and various machines for harvesting and handling crops. On the north of the Central Avenue, arranged in two lines, are threshing machines, &c., of the REMINGTONS of Ilion, and of WHEELER & MELICK of Albany. The next line are HORACE L. EMERY of Albany; R. & M. HARDER, Cobleskill; FOWLER of Fowlerville, N. Y., each exhibiting a large variety of implements and general assortment of machines, from their establishments. On the south of East Avenue, and running at the head of the avenues east and west, are arranged reapers and mowers in two lines, making a splendid display. On the right of the center avenue, running east and west, stand the hay presses—seven in number—and making one of the ininteresting features of the exhibition. LADUE & STORY of Little Falls, have two of the celebrated Beater presses, one a screw and the other a lever beater press. COLTON, WASTE & BRO., of Galesburg, Ill., come next with their roller presses. Dederick's independent lever press, manufactured at Albany, N. Y., comes next in line, and Mr. DEDERICK has two others also on exhibition. The American Hay & Cotton Press Company, GROVES' patent, stands near, all of which have been at work from day to day, turning out bales of hay, and some of them with great expedition. The Beater press was in motion nearly the whole of the time, and performed its work with great neatness and dispatch.

One noticeable feature in all of the machines upon the grounds was their fine workmanship and substantial manner of construction. Great improvements have been made in this direction, and it is a feature worthy of note, indicating progress. At former fairs we have had a large number of slightly made machines, and manufacturers are now becoming aware that durability is a matter of some importance.

In Reapers and Mowers there has perhaps been more improvement made during the last year than ever before in twice that space of time. In this large collection the farmer could scarcely go amiss in taking any on the ground. In Plows, Cultivators, Harrows, Horse-Rakes of various kinds and styles, both wheel and revolving, the collection was large, embracing many new features. And even in the common hand-hoe we find an important improvement in the sample exhibited by Mr. NOURSE of Boston, which consists in lengthening the blade, rounding off the corners, and tapering the blade to a point, thus lessening the labor of hoeing or digging roots.

In horse powers and threshers, the exhibition was larger than last year, and embraced several new features, and for mechanical skill and workmanship, has never been excelled. Among the many machines of this character, perhaps the most attractive, is a new invention by N. Palmer, of Hudson, N. Y., called the climax threshing machine, which preserves the straw perfectly. It is constructed with a feeding cylinder five and a half feet long, which carries the straw into the threshing cylinder. This last is corrugated, having twelve flanges and corrugations. The grain is fed in lengthwise of the cylinder and the straw comes out entirely unbroken and uncrimped. It must thresh fast and with little power on account of having nearly twice the space for receiving the grain as other machines and on account of not breaking or meshing the straw. It is a side or cross feed machine, taking the straw to the binder as straight as before passing through the machine. It performs its work in a most wonderful and perfect manner, and elicited the admiration of all those who saw it work. It was awarded the Silver Medal and a Diploma, and richly deserved them. It was exhibited by N. & T. G. Palmer of Hudson, Columbia county, N. Y. We may allude hereafter, to other new and important improvements in machinery or those that would be of general interest to the public

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Cotton in Southern Illinois.—A correspondent of the Tribane says, that in fourteen of the southern counties of Illinois, and in a few in Indiana, cotton is everywhere seen. Tens of thousands of refugees find constant employment. Capitalists from the North have large fields; every farmer planted; the amount is enormous. So far it looks well, and much better than for several years. The wet weather has caused a great growth; when the rain stops the balls will begin to open.

THE NEW-YORK STATE FAIR.

The Great Cheese Exhibition.

One of the leading and most interesting features of the Fair is Dairy Hall. Never before, in any age or country, has there been such a splendid exhibition of cheese. It is true the number falls short of what was expected, but the show in this department is large, and embraces all, or nearly all, the first-class factories in the State. Factories which are not represented, it is to be presumed, had no cheese on hand which they were willing to run the risk of showing. Perhaps it is fortunate that no more cheese is on the grounds, since the tent is quite full enough for showing them to advantage. An ordinary observer going through the Hall, would perhaps be merely attracted by the handsome appearance of the various lots on exhibition, but when it is taken into account that we have here the choicest product of American dairies—cheese that for richness and flavor have never been surpassed or perhaps equalled in America, then it will be seen how important is this exhibition to those desiring to see the best that our dairymen are able to accomplish. To the dairymen, these cheese on exhibition are of interest, since the various dairies may be compared side by side, and lessons of improvement learned. Here are coarse curds, the Cheddar and other styles of cheese which have more or less favor in the several markets for which they are designed.

The cheeses are arranged in the tent by counties. As you enter, the first that strikes the eye is the big cheese of Canada, manufactured by Smith & Sons, at Norwich, Oxford county, Canada West. It weighs 4,240 pounds, and took the milk of 500 cows for four days for its production. It stands upon the wagon specially arranged for it, and is in the central part of the tent. It is 16 feet in circumference, five feet in diameter, and two feet four inches high, and was hauled upon the grounds, yesterday, at 2 o'clock P. M., by 10 yoke of oxen, the American and British flags flying from its top. It is the largest cheese that has ever been manufactured, and as such must necessarily atattract attention and interest. There is but a small representation from family dairies—some forty cheese from Erie and Wyoming counties, and one from the central counties. The factory cheeses are arranged by counties—Herkimer and Oneida being in the center, the eastern counties being on the right and the western counties to the left.

As to numbers, Herkimer county takes the lead, showing 100. Oneida comes next with 98, then follows Erie with 60; Jefferson 41; Wyoming 40; Lewis 30; Otsego 18; Madison 9; Oswego 7; St. Lawrence 6, and Onondaga 6—making a total of 516.

We may remark here that Superintendent Geo. A. Moore of Buffalo, is deserving of much credit in getting a show of cheese from Erie and Wyoming counties. These distant counties are well represented, and that it has been so is mainly through the exertions of Mr. Moore, who was determined to see that part of the State properly represented.

About 6 o'clock last evening, and while the people were leaving the fair ground, several shippers and cheese dealers being present, with Mr. Clark of the Canada Farmer, and a few others, it was proposed by Mr. Smith and Nellis of Canada, that the big cheese be tested. Superintendent Moore provided a long butter trier and placed it in the hands of the shipper, Mr. Hodsson, who lifted the bandage and pushed the long steel into the heart of the great "Queen of Milk." The cheese shows no porosity, and is well manufactured. It is not deficient in butter, but the flavor is inferior—much inferior to our State cheese.

While nearly every cheese on exhibition is of special merit, it would perhaps be invidious to make distinctions, but there was one sample that perhaps should be noticed on account of the peculiar manner in which it is put up. We refer to the samples from Lyman R. Lyon's factory, Lyons Falls, Lewis county. These cheeses are a nice imitation of the celebrated "improved Cheddar" of England, Mr. L. having imported a sample to work from. They are 15 inches in diameter, by 11 inches high, and never had upon their sides a bandage. The dairy public will perhaps remember that Mr. Pritcher of Jefferson Co., last year made an experiment in substituting hoops for bandages, and he stated at the Watertown Cheese Convention that they proved a success. Dairymen generally have been incredulous in regard to this matter, and have been unwilling to try it on account of the fear of losing cheese during the process of curing and shipping to market. Mr. Lyon, however, has been trying the plan, and finds it to work as successfully as had been represented. We visited his factory recently, and saw his cheese, and tseted them. They are nice in appearance, free from mould, and are of good flavor.

The mode of operation is as follows: As soon as the cheese comes from the press, an elm hoop, similar to that used for putting up cheese when sent to market, is divested of its covers and slipped over the cheese, and remains there until it is ready for shipping, when the hoop is cut down level with the cheese and the covers adjusted, and it is all ready to go off, like any other cheese. These hoops are planed on the inside, and at one edge are 1½ inches larger in circumference, in order that the cheese may be taken out when curing, whenever desired.

This comprises the whole matter, and those who examined Mr. Lyon's cheese at the Fair, will see that they are in as perfect a shape and condition as any that have bandages. The importance of adopting this method will be more readily appreciated when it is known that all bandaged cheese, when it arrives in England, is stripped of its bandage, and one pound deducted on each cheese for bandage. This, together with the large cost of bandages, and the trouble of putting them on, would seem to specially commend the practice to dairymen. X. A. W.

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HOW TO MAKE ELDERBERRY WINE.

Messrs. Editors—In your Co. Gent. of Aug. 10, I see an inquiry for a recipe for elderberry wine. I send you mine, which I think a very good one;

Mash your berries and strain them through a cloth. To one quart of juice add three pounds of sugar and two quarts of water. Put in a keg not quite full, cork tight, and let it stand in a cool place for at least six months before using—the longer the better.

North Greenbush, N. Y. T. M. SUTLIFF.

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A man will have no fine springs in his body if he seldom or never drinks at one.

ENTOMOLOGICAL CORRESPONDENCE.

A severe attack of sickness the past month, disabled me from punctually responding to some inquiries respecting insects, addressed to the Co. GENT.

Yellow-necked Apple-tree Worm.

S. CAVERNO, writing from Lockport, N. Y., August 7th, says:

> I send you enclosed, specimens of a worm which I first noticed upon my apple trees two years ago. At that time they were confined to a few young trees. I destroyed them. Last year twenty or thirty trees were attacked. I again carefully destroyed them. This year they are making their appearance on hundreds of my young trees. They commence at the top of the branches, work in close proximity, covering each leaf with as many as can get upon it, others taking and covering the nearest leaves, thus working in companies of ten to a hundred on the same limb, and close together. They make no nest. I have not been able to discover whence they came nor whither they go. They commence about the first of August; how long they continue their depredations I cannot tell. In some cases last year they had stripped every leaf from some trees and disappeared, before I noticed the fact. The smaller ones have black heads with yellow spots on the back. As they become larger the body becomes darker, and the head and those spots become a bright red or scarlet. When fully grown these spots become very bright and much larger. Their excrementitious deposits literally blacken the ground. The full grown worm is several times larger than the largest of these specimens. They multiply so rapidly and devour so ravenously, that I fear they are destined to become a serious evil.

The worms sent with the above were the Yellow-necked Apple-tree Worm. It is a cylindrical dull yellow worm, with light yellow stripes, which are more or less broken into spots, and a shining black head. It is thinly clothed with long soft gray hairs. As it approaches maturity it changes to a dark brown or black color, with the same light yellow stripes, and the neck now becomes bright orange yellow or red. These worms make their appearance each year in August. They occur crowded closely together in a cluster, upon a particular limb of the apple tree, which they strip clean of its leaves; and if the limb is gently jarred or otherwise disturbed, they all instantly hold both ends of their bodies stiffly upward, remaining perfectly still in this grotesque posture for some moments, until their alarm subsides.

These worms are produced by a miller or moth which is from two to nearly two and a half inches in width across its wings, when they are fully extended. Its color varies in different individuals from buff yellow to auburn brown, and it is particularly distinguished by having four slender blackish-brown bands across its fore wings, the first band being curved and transverse, the others straight and parallel with the hind margin. I gave a full account of this insect, with figures of the worm and of the parent moth, in my Second Report on Noxious Insects, in the Transactions of our State Agricultural Society for 1855, page 467, to which I would refer the reader for more particular information.

This insect was first made known to the world in 1773, by Dru Drury, in the second volume of his Illustrations of Exotic Entomology, plate 14, he naming it *Phalena ministra*, or the Hand-maid Moth. Dr. Harris refers it to the modern genus *Pygæra*. But perceiving it could not be properly included in that genus, when preparing the account above referred to, I proposed for it a new genus, to be named *Eumetopona*. I since see Mr. Walker, in the Catalogue of the British Museum, has placed it in a new genus, which he names *Datana*.

This insect appears by Mr. Caverno's letter to be unusually abundant this season in his vicinity. Commonly but two or three clusters of the worms are to be found in an orchard, and several years frequently elapse without any of them being seen. As they are huddled closely together in such numbers on a particular limb, they are readily destroyed by cutting off the limbs on which they are gathered, and dropping them into a stove in which a fire is briskly burning.

Locust Hispa.

W. J. YOUNGS, in a letter from Oyster Bay, Long Island, Aug. 21, says:

> "I send you with this a few bugs or beetles that are making sad work with our locust trees. It is the first time they ever appeared in this place, though I have seen them in the western part of this county for several years. If you have locust trees in Albany I advise you not to let them go; if there are none, then no matter for they attack no other trees. A person can almost count every locust tree about here, each tree looking as if it had been subjected to a fire. The little fellows appear to do no further damage however, than eat the leaves off the trees. There are millions of the bugs about here."

We have repeatedly received accounts from different sources of this little beetle, as being very pernicious to the locust trees in this State and Pennsylvania, and have already noticed it in the COUNTRY GENTLEMAN, January, 1860. It has been particularly destructive at Glen Cove, ten miles west of Oyster Bay, where it commenced its career several years since, and has been gradually extending the field of its operations, the line to which it had advanced each season being plainly marked by the brown, withered foliage of the trees, appearing as though they had been singed by fire. Although this insect is so immensely numerous in the southern, I am not aware that a specimen of it has ever been found in the middle and northern sections of the State, which is the more remarkable as locust trees are here so very common.

This insect is the Locust Hispa, its technical name being *Anoplitis scutellaris*, Olivier having first named and described it. It is a small oblong flattish beetle, of a black color with the thorax and wing covers, except along their suture, tawny yellow. It is a quarter of an inch long. Its larva also feeds upon the leaves, residing in their interior and consuming the green pulpy matter of the leaf, but leaving the skin entire. A gray spot resembling a blister may be noticed on many of the leaves, and on opening this spot a small flattened whitish worm is found there, tapering from the fore end to the tip, with projections along each side like the teeth of a saw, and with but three pairs of feet, which are placed anteriorly upon the breast. It grows to a quarter of an inch in length, and then changes to a pupa, which lies in the same cavity in the leaf, and in a week changes again and becomes the perfect insect.

Black Prickly Worms Eating the Leaves of Canada Thistles.

Accompanying the account of the destroyer of the Canada thistle, which was published in the Co. GENT. of the 7th inst., Mr. SNOOK favored us with specimens of two of the worms—one large, the other small—in a box with thistle leaves for their sustenance. This remittance reached me in good condition, and the reader will probably be interested with a somewhat particular recital of my notes and observations upon its contents.

When it came to hand the large worm had changed to a pupa or chrysalis, with the shrivelled prickly cast skin of the worm adhering slightly to it on one side. An inspection of the leaves showed that it is the habit of the worm to fold and tie the leaves of the thistle together with silken threads, which it spins from its mouth ; and when it is fully grown it selects a particular spot on the underside of a leaf, or a leaf stalk, and there fastens a small tuft of its threads, resembling a little mass of cobweb. Then clinging to this mass of threads with its hindmost pair of feet, it drops its body downward ; the skin then cracks open on the fore part of its back, and the chrysalis, by writhing and bending, crowds itself out therefrom, and remains hanging with its head downward, being held from falling by some minute hooks at the tip of the body, which become fastened into the mass of silken threads.

The chrysalis somewhat exceeds half an inch in length, and is half as thick, of an irregular oval form, and a blackish color, clouded in places with dull yellow, and along its back are two rows of projecting conical points, of a brilliant golden lustre. On examining this chrysalis I now discover a place where it has been gnawed by a worm inside, which is evidently a parasite that is there feeding upon it.

The smaller worm was blackish brown, with some yellowish lines along its sides. When it came to hand it was so gaunt and starved in its appearance that I immediately supplied it with a fresh leaf of thistle, thinking when it was more grown and full fed I would examine and write out a description of it. But it did not eat any of the fresh leaf, and I now discover it is dead and shrunk to a small, shapeless mass ; and in a fold of the leaf is a multitude of threads, holding in their centre a small white cocoon, which must have been formed by another parasite that has lived inside of this smaller worm till it killed it. The cocoon is marked with two broad, black bands, whence I infer it will, ere many days, give out an Ichneumon fly, which will probably be the *Banchus fugitivus* of Say.

Thus both the worms sent us have been destroyed by parasites, whereby we are unable to obtain from them this insect in its perfect state. There is no doubt, however, respecting its species, These worms are the progeny of a large, handsome butterfly, commonly called the Painted Lady, and scientifically termed *Cynthia Cardui.* This butterfly measures from 2¼ to 2¾ inches in width across its fore wings, which are blackish brown, with large, tawny orange spots occupying their middle part, and at their tips are three spots and two dots of white. The tawny orange spots on the right wing have a resemblance in their shape and relative position to a map of England and Ireland. Its larva feeds upon all the different species of thistles, and is occasionally met with also on the nettle, mallow, artichoke, and some other plants ; and the species probably inhabits all parts of the world where its food abounds. I have received specimens of the butterfly from China and from Brazil, which are perfectly identical with those of our own country. It is also common in the different countries of Europe, and is recorded as occurring in northern and southern Africa, the East Indies, Australia and California. As thistles grow everywhere, so this insect which feeds on them appears to abound everywhere. These butterflies, however, are very fluctuating and irregular in their appearance, being quite common some seasons, and then nearly or totally disappearing for several years—their parasites probably becoming so excessively multiplied when the worms on which they subsist are plenty, that they thereupon almost exterminate them. Instances are also related in which these butterflies, being very numerous, have become gregarious, like the locust, gathering together in vast swarms and migrating to other countries. A. Fitch.

VINEGAR AND THE VINEGAR PLANT.

BY A HOUSEKEEPER.

Vinegar.—The best is made of cider, weakened and set in a warm place until it sours. If the pomice after cider or wine making is thrown into a vessel and covered with double its measure of water, it will, after fermenting, yield, when pressed, a large quantity of liquid that needs only time to convert into the best vinegar.

The juice or syrup from sorgho will make excellent vinegar if diluted until just pleasantly sweet. The juice may be had by fermenting the bagasse as directed for pomace above. We made two barrels of this in our first experiments with sorgho; it stood a year without souring; then we diluted with water, and in a few weeks it was good vinegar, and has improved.

A liquor prepared as for corn beer, allowing 1 pint of molasses to the gallon, and 1 gallon of good vinegar to 10 gallons of the corn liquor, and a teacup of yeast, rolled up in thick pieces of white paper, will make excellent vinegar. We took a premium on this.

The Vinegar Plant.—But we *grow* our vinegar now. From a friend in the Scioto valley we received a vinegar plant a year since. It is not, but is hardly distinguishable from the mother often found in vinegar. We put it by direction into a gallon of soft water sweetened with 1 quart of molasses. We keep it usually in our flower pit, and it now produces us a gallon of vinegar per month—beautifully clear and well flavored. It increases in layers, and ours would doubtless produce more vinegar if we had not distributed to our friends the new layers as fast as produced. We think it works better in a glass vessel in the light, but know it will produce in a barrel.

We call attention to the directions we have given for wine and vinegar; being used, especially the last article, so much in housekeeping, it is all important, for life's sake, that they should be pure. Chemical vinegar is as deleterious to health as the fatally drugged liquors that destroy like a plague in our land. We once in our housekeeping experience bought a jar of pickles. The last of them were left in the bottle without being covered with vinegar, and were in a few days wholly incrusted with copperas. Dr. Cone, Inspector of Liquors in Cincinnati, represents himself as going always armed with litmus paper, wherewith to test liquor ; if containing impure substances the paper will turn red he says. We give this as useful to a housekeeper, who would surely repudiate anything containing the deadly drugs he asserts he constantly finds in the most costly wines and liquors. He likewise mentions the use of copper as a test. This will readily show the presence of the poisonous acids with which liquor is adulterated.

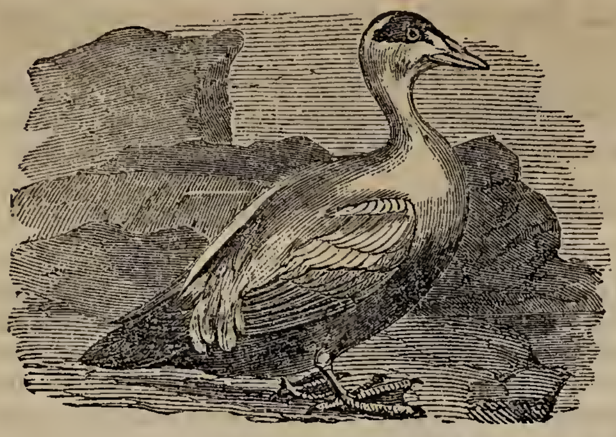
Lumps on Calves' Necks and Under Jaw.

Hydriadate of potash 1 part—good lard 7 parts—mix *well* in a clean mortar, (not iron)—shear the hair off, and rub on a piece about the size of a walnut once a day, until they disappear.

Or, Iodide of potassium 1 part—lard 7 parts. Apply as before. This will cure lumps in the necks of oxen.

St. Pie, C. E. Y. Z.

Pig Trough.—They have a monster pig trough in a swinery at Dorchester, England. It is 500 feet long, and calculated for 2,000 pigs to eat at one time from it.



EIDER DUCK---*Somateria molissima.* LEACH.

The Eider Duck has long been widely celebrated on account of the exquisitely soft and bright down which the parent bird plucks from its breast and lays over its eggs during the process of incubation. Taking these nests is with some a regular business, not devoid of risk, on account of the precipitous localities in which the Eider Duck often breeds. The nest is made of fine seaweeds, and after the mother bird has laid her compliment of eggs, she covers them with the soft down, adding to the heap daily, until she completely hides them from view.

The Eider Duck is a shy, retiring bird. From 45 degrees north latitude, to undiscovered regions, is their natural haunt. It is an admirable diver, its legs being placed very far back, and it obtains much of its food by gathering it under water, after the manner of nearly all wild ducks. The structure of its legs, which gives it such admirable facilities for diving, entirely unfits it for walking.

The inhabitants of the places where these birds breed, have perfected a system of robbing them of the down with which they cover their eggs during incubation. The plan usually adopted is, first to remove both the eggs and the down, when the female lays another set of eggs and covers them with fresh down. These are again taken, and then the male is obliged to give his help by taking down from his own breast, and supplying the place of that which was stolen. The down of the male bird is pale colored, and as soon as it is seen in the nest, the eggs and down are left untouched, in order to keep up the breed. Were this latter precaution not attended to, there would soon be no such birds as Eider Ducks. But the persons who collect the down know their own interests too well to "kill the goose that laid the golden egg."

The Eider Duck places its nest on some island, on rocks projecting well into the sea. The common number of eggs is from five to six. They are of a pale green color. A specimen in the writer's cabinet measures as follows:

Length: 3 inches.
Breadth: 2 inches.
Locality: Nova Scotia or Labrador.
Presented by the Smithsonian Institution.

This bird is believed to exist in both Europe and America, but we ourselves question whether it is the same species. We are not aware of a *single bird* that exists in both countries, that is *exactly* the same. Representatives on both continents agree with each other in many respects, but the observing eye of the ornithologist points out some distinction, however slight. This difference is so slight in some cases that BUFFON conceived his theory about the degeneration of species from it. He stated that he believed that all the birds found in America were originally the same as the European, but that the climate, &c., had caused them to "degenerate!" Such was the European idea at that time of a country which is destined to stand first in importance to any in the world. But we who live in this age of enlightenment must make allowances for the dark age of science in which he lived, and overlook his errors as we would that others would our own, thus verifying the golden rule.

[A. O.] J. P. NORRIS.

CELLAR DRAINS.

To secure sufficient drainage, and to prevent the channels from becoming choked by sediment, much depends on the form of the bottom of the channel. We had recently occasion to take up and repair a cellar drain which had become obstructed, and had ceased to discharge water; and found the difficulty to result chiefly from a flat bottom, formed by placing horse-shoe tile in the usual manner on a plank bottom, as shown in fig. 1. The water which had passed into the drain, spread itself over the whole bottom; the current was shallow and weak, and was incapable of carrying off the small particles of solid matter which it contained, and they were deposited, as a necessary consequence in the bottom. Successive layers finally choked the whole channel. Channels for a similar purpose, either above or below ground, are frequently made of boards or plank alone, with a flat bottom, and with a similar result. Had the *corner*, instead of the flat side, been placed downwards, the water would have been thrown together or concentrated, and instead of depositing sediment, have swept it off freely, and left the channel clear. The accompanying figures show this result distinctly; the first, (fig. 2,) representing the water as spread over the flat bottom, and the second, (fig. 3,) the same amount of water collected together in the angle formed by placing the boards in a different position.

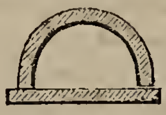


Fig. 1. — *Horse-shoe tile wrongly placed.*

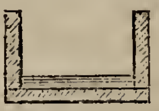


Fig. 2—*Box-channel wrongly placed.*

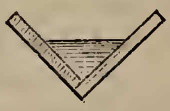


Fig. 3—*Box channel properly set.*

In constructing a drain for similar purposes of *tile*, the curved portion should always be placed below. If horse-shoe tile is used, it should be inverted, (fig. 4,) and covered with a stout sole, flat stone or plank. If tubular or pipe tile, (fig. 5,) is employed, no difficulty will occur—although the results will be less striking than in an angle,—and a small tile will be better than one too large.

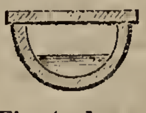


Fig. 4—*Inverted horse-shoe.*

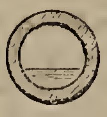
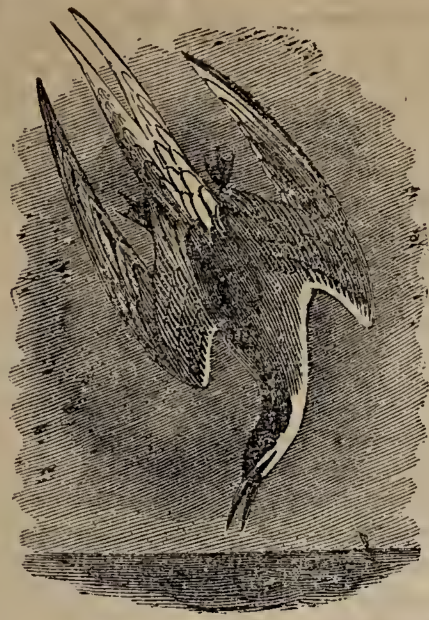


Fig. 5.—*Tubular tile.*

These precautions are not required in common land drainage, as the water, before entering, becomes thoroughly filtered, provided the drains are deep enough. They should be entirely beyond the reach of frost, which by disturbing the soil, always produces some muddy water. In loose or porous soils, the depth should be greater than in those of a compact or clayey nature. In this latitude the depth should never be less than three feet for the former, nor less than two and a half for the latter.



ARCTIC TERN---*Sterna macroura.* NAUM.

The Arctic Tern or "Sea Swallow," (as this as well as all of the genus are called,) is mostly seen on the wing, not often going to shore, except during the breeding season, but reposing occasionally on floating logs of wood, buoys, and similar resting places. Its food consists mostly of small fish, which is obtained by darting down from the air upon them, as represented in our engraving. When seeking for its food it does not rise to any very great height, but keeps hovering over the water at a distance of a few feet from the surface ready to pounce down upon and devour any small fish that may be unlucky enough to come to the surface of the water.

It is a rather northern species, being found on the eastern coast of the United States, from New-Jersey northwards. It is a very noisy bird, chasing its companions when not engaged in procuring food or "fishing," as the sailors call it, and uttering all the while an incessant loud cry.

In reference to its breeding, we find the following in RICHARDSON'S & SWAINSON'S "Fauna Borealia-Americana:"

"This Tern breeds very abundantly on the shores of Mellville Peninsula, and on nearly all the islands and beaches of the Arctic Sea. The eggs are very obtuse at one end, and taper very much at the other. They vary in color from a light yellowish-brown to bluish-gray, and are marked with many irregular brown spots of different degrees of intensity. They lay them right on the beach, which is gravelly or sandy as the case may be. The parent birds show much anxiety if any one approach the eggs."

An undoubted specimen in our cabinet, from Hudson's Bay, measures as follows:

Length: 1 6-8 inches.
Breadth: 1 2-8 inches.

Oval in form, rather sharp at small end. Ground color olive. blotched irregularly with dark umber; the blotches being larger towards the large end.

Other specimens in our cabinet from various localities, show considerable difference in markings, &c. Great care must be observed not to confound Wilson's Tern, (*Sterna Wilsoni*) with the present species, which it very closely resembles. This applies particularly to their eggs, and we can say with confidence, that of the many thousand eggs in collections labelled *Sterna macroura*, not *one-half* are really *Sterna macroura*, but ARE *Sterna Wilsoni.* J. P. NORRIS.

YARDING COWS NIGHTS.

MESSRS. EDITORS—There is one subject of some importance, that I believe has not been thoroughly discussed in your columns, or at least very recently. The question is, which is the most economical plan for cows that run out to pasture in summer, to yard them on a plenty of straw or other litter, or drive them to pasture every night after milking? In New-England both and every other way is practiced; some drive to a good pasture; some to a poor one, perhaps to a bog with upland enough around the edges to give them a place to lay down, while the manure goes where it does no good. Others put them in small lots where there can be little or no feed; (this practice will make a small lot rich;) others yard them in small pens, where the manure is not scraped up, but left to dry up or go off in the atmosphere—in this case, liquid and solid is a total loss; while still others keep them in the yard where they milk, with a plenty of straw to keep them clean, thus converting many loads of straw into manure for fall use. Now I consider this the best plan for the saving of manure for immediate use; but is not this manure made at the expense of the usefulness of the cow? Who will answer?

There is one other practice that I have not named. I notice that many dairy farms are so situated that the cows have access to the barn at all times from their pasture, which extends over one side or nearly all of the farm, and are kept in this one great pasture the season through; sometimes they are left in the yard, with the gate open to go out and in as they choose; sometimes shut out of the yard, to lay down near by or go to their old pasture, which they seldom do, but lay down near by until daylight, when they are off to pasture, and you rise just in time to see the tail of the last one half a mile off, just when you want them in the yard. Now this I consider no better than yarding the cows, and not as good, for they spoil an acre of land nearest the barn, and no manure of any account made in the yard. This is not all. Cows will not do as well drove to the same pasture night and day, as they will to have a day pasture and a night pasture. Whether they will do as well to be kept in one day pasture through the season, or have a change, I shall not stop here to discuss. I will leave that until some other time, or for some other one to do.

Cows are naturally discontented or uneasy, and like a new pasture every few days. Give them a new place and the best of rowen feed, and in three or four days they will want to go to their old pasture or some other, and for some years past I have studied their habits and come to this conclusion, that cows should be driven to different places nights and days, if drove at all nights. My farm is so situated that a part lays north and a part south of my barn. The cows come to the yard every night and morning, where there is good sheds to milk under when it rains.

A cow will consume one acre of good grass for night pasture alone in a season, and do much better than to be yarded. This is my experience. When my yard-door is rolled in the morning after milking, if the cows were drove south at night, they will of their own accord go north in the morning, and when in the pasture they will go straightway to eating; but if they are driven back to the same field they were just from in the morning, they will many times stay or lay down by the bars until the dew is off the grass, which lessens the flow of milk. L. F. SCOTT. *Bethlehem, Conn.*

THE CULTIVATOR.

ALBANY, N. Y., OCTOBER, 1865.

Aspinwall's Potato-Digger.—We had an opportunity of witnessing the operation of this new labor-saving machine on a farm near this city, last week. The engraving given in Mr. ASPINWALL's advertisement in this paper, furnishes a correct view of it. "The driving wheels run between the rows or hills, while the plow is set so as to cut just beneath the potatoes, which are carried or forced back with the earth and vines, by the forward movement of the machine upon the double acting vibrating separators, which thoroughly separate and discharge the vines and potatoes in the rear. The depth of digging is regulated by the pin holes in the standards to which the eccentric levers are fastened for raising and lowering the plow at the end of each row, or when driving from the field. The separators are made of iron, with quarter inch steel rods placed cross-wise, which run upon rollers underneath the plow, and swing upon hangers in the rear. The vibration of these separators are contrary, or one up and one down, and so peculiar as to carry every thing backwards that falls on them; the motion being nearly as fast as the cutting bar of the mowing machine. It is built wholly of iron and steel, with the exception of the pole." From the engraving and this description, the reader will get a pretty accurate idea of this potato-digger, which, from what we saw of it in operation, we think promises to be a most useful invention. The soil on which it was used, was light and dry, and the potatoes, though many of them were very small, were laid out on the rows ready and convenient to be picked up. It was estimated that on such land, three to four acres a day might be dug with this machine, by a man and span of horses.

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Death of a Western "Cattle-King."—The Prairie Farmer says: "A few months ago we chronicled the death of Senator Funk and his brother, of McLean county, and now comes the painful intelligence of the decease of Jacob Strawn, the great landholder and cattle dealer of Morgan county. Mr. Strawn emigrated from Ohio to Illinois in 1850. He began life in the former State as a teamster. Upon his arrival here he entered 500 acres of government land, at $1.25 per acre. To this he has, from time to time, added largely, until he became one of the largest landholders of the State, and from the gradual rise in the value of this property from government price to 40 or 50 or more dollars per acre, must have been worth some million and half dollars. We believe at the time of his death he was the owner of something over thirty thousand acres of land, mostly in the fertile county of Morgan. Besides this, he was possessed of considerable property in the city of Jacksonville. The cash value of his farm stock was also immense. Mr. Strawn was a very eccentric man, and rather gloried in being considered so. He was remarkable for great force of character, great personal endurance, and strict integrity. He was not illiberal, as his donation of $10,000 to the State Sanitary Commission attests."

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Cotton in California.—S. W. JEWETT writes to the Secretary of the California State Agricultural Society, that he has "over 100 acres of land bearing cotton that looks as promising, or more so, than any grown in the Southern States." There is a bounty on 100 bales and 100 acres of cotton, offered by the State, which he wishes to obtain.

The Cattle Plague.—"Scarcely three weeks have elapsed," says the Scottish Farmer of August 9th, "since it was generally rumored that a disease of a dangerous though unknown character had broken out in London dairies, and already we have reports of its extension to the furthest confines of England, while day by day we are told of its appearance in new localities. In London which may be looked upon as the centre of the malady, and from which it appears to have originally spread—the latest accounts speak of it as in no way mitigated from its primary severity; whilst in nearly all the adjacent counties it has acquired a considerable prevalence."

All accounts agree that this plague is as infectious as it is fatal. From two-thirds to four-fifths of the cattle in herds once attacked seem to be destroyed. The article above quoted describes the disease as "a fever, with a tendency to extensive inflammation, and to ulceration, particularly of the mucous membranes, associated with great prostration of the vital powers, and early terminating with death." It is no wonder that intense alarm has been excited. Contagion and infection appear to have been widely disseminated, and it is not known when the pest will end its course. It is supposed to be analogous to, if not precisely identical with, what has been known as the cattle plague for many years in Russia, and other parts of Eastern Europe.

◆

Diehl and Soules Wheat, &c.—JOHN JOHNSTON, under date of near Geneva, Aug. 23, writes us as follows: "I have got one barrel of the so-called Diehl select wheat, and I shall be much disappointed if it is anything else than the Soules wheat, which I have grown ever since 1844. I sent many hundred bushels of it to Indiana and other Western States, a number of years ago, and often thought it would be well to get some of it back, thinking it might do better than that grown in this State for the last 20 years. The only difficulty in raising Soules wheat here now, is that almost every year it turns all yellow in April, and if warm growing weather don't immediately set in it never recovers, and makes a poor crop. Sowing after the 20th Sept. is generally a preventive, but that of late years is thought to be too late.

Wheat don't turn out so much on thrashing as anticipated. The high winds in the flowering season I think is the cause, as there are a great amount of imperfect kernels. On land exposed to the winds, I have no doubt the loss from that cause is as least 33⅓ per cent.

Apples, none. Potatoes, excellent; so far no rot. Oats and barley I think a good crop. The quality of the wheat is good when the imperfect kernels are cleaned out. Wheat brings a good price."

◆

Fine Peach.—Mr. WM. MCCAMMON of this city, last week presented us with specimens of a seedling peach from a tree which came up in his garden nine years ago. It first produced fruit last year. The fruit is of large size, rich; the skin very thin and beautifully colored, and the stone small, from which the flesh separates freely. It is well worth propagating.

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Not Encouraging.—We find the following item in the Springfield Republican:

Mr. J. S. Grinnell, the experienced chief clerk of the agricultural bureau at Washington has been removed from that office by Commissioner Newton, and his place supplied by a Mr. Stokes, nephew of the latter. Mr. Newton has not increased his popularity at Washington or anywhere else by that move.

This is bad news for those who had any hopes of the future usefulness of the Department.

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☞ Prof. JOHN A. PORTER of New-Haven, we are pleased to learn, has recently returned, after a years' absence in Europe, greatly improved in health by his travels

American Wines.—The wines shown at the recent State Fair at Utica included a number of samples from the Pleasant Valley Wine Co., Hammondsport, in this State, and from the neighborhood of St. Louis, Mo., the latter from Dr. L. D. Morse, Sec. of the State Board of Agriculture. Other samples from various exhibitors were also shown, but none of them equal in merit to those above specified, and nearly all manipulated by the addition of sugar or otherwise, so as to render them something else than the *pure* product of American grapes. The Missouri samples, including still wines made from the Catawba, Concord, Delaware, and Norton's Virginia grapes, were of excellent quality, but manifesting unexpected differences to the taste from those exhibited by Mr. Champlin of Pleasant Valley. These differences rendered them the pleasanter of the two to some judges, (while others decidedly preferred the vintages of Steuben county,) and were due probably to differences of soil and climate, rather than in modes of manufacture. The Pleasant Valley Wine Co. exhibited wines made from the Diana, Delaware, Catawba, and Isabella. Of the last mentioned there were two kinds, one light colored and the other a claret, the deeper tinge of which was owing to its remaining longer on the husks. Of the Catawba there were both still and sparkling. The latter was a great improvement upon that heretofore shown by the same company—an improvement to be ascribed to better processes in making, and it met with the unqualified approval of many capable tasters, comparing favorably in all respects with the best champagnes of French vineyards. The still Catawba is an excellent wine, slightly acid, but at the same time containing a fair amount of native sugar, and therefore of good body, and possessing more character than that exhibited from Missouri. In the samples of Delaware wine, both from Pleasant Valley and from St. Louis, we were somewhat disappointed, the superiority of the grape, as eaten from the vines, not being apparently maintained in the wine it produces. Dr. Morse expressed a high opinion of the Concord as a wine grape, owing both to the quality of the wine, and to the productiveness of this variety in large and handsome clusters from which a good return may be obtained if marketed to the extent of the demand directly from the vines. Norton's Virginia furnishes a wine sold at St. Louis for a higher price than any other, and partaking of the character of Burgundy rather than Bordeaux—being of deeper color, richer in flavor and greater body than most samples of the latter.

In addition to the above, Mr. F. C. Brehm of Waterloo, exhibited Diana wines of 1863 and 1864, which were of very creditable quality, and should not be passed over without notice.

With the success of the Pleasant Valley company, it appears to be fully proven that where soils and situation are favorable, there is nothing to prevent the manufacture of a good wine in our latitude. What we want is to know just what sort of product our native varieties will yield—not by doctoring them up in the fancied hope of imitating something of foreign growth, but simply by careful manufacture to obtain the best results of which they are capable. The taste for the clarets of France and the hocks of the Rhenish Valley is an acquired one, and if attention is directed to wines of home growth there is no reason why the former should usurp the market to their exclusion if well made and having a fair opportunity to establish their reputation. We can conceive of no basis on the part of the consumer for a preference of the imported article to the best samples of home growth, except from habit and fashion; and if the money sent abroad to buy wines can be in part at least expended at home, the country will certainly be the gainer to that extent—whatever differences of opinion there may be as to the propriety of using wines at all, unless strictly for medicinal purposes.

Ellwanger & Barry's Nursery. — On a recent visit to this celebrated establishment we found the same high finish and perfection in every department that has existed for several years. On entering the grounds one of the most striking features is the perfection of the broad lawn, interspersed with rare evergreen and deciduous trees. This lawn is kept constantly mowed with Swift's new lawn mower which cuts by horse power, with great rapidity, and with mathematical evenness, within half an inch of the surface of the ground, carrying off the cut grass. A grass walk about ten feet wide and nearly half a mile long, as smooth as a ribbon, is bordered on each side with the most brilliant display of bedded and other flowering plants. Their vast collection of dwarf and other specimen trees, although not bearing heavily, furnish many very perfect specimens.

The nursery of fruit trees which continues to cover about 500 acres, affords a vast supply for planting, and the trees are of remarkably fine growth. Among them is half a million saleable dwarf and standard pears.

To the above note from Mr. Thomas, we add our acknowledgments to Messrs. Ellwanger & Barry, for a basket of pears, among which were a dozen or more of the fine varieties grown on their grounds, such as have attracted so much attention at several of the recent horticultural exhibitions.

The Cornell University.—A meeting of the Board of Trustees of this institution was held at Ithaca Sept. 5th, when the Board was formally organized. The most important business was to make secure the donation of Half a Million of Dollars from Ezra Cornell, the liberal founder of what promises to become one of the noblest institutions of practical learning in the world. On motion of Mr. Brooks, Messrs. E. D. Morgan of New-York, Kelly of Duchess, and Schuyler of Tompkins, were appointed to examine and report upon the gift and its security, and after conference with Mr. Cornell, the committee reported for the consideration of the Board, and the approval of the State Comptroller, that the gift of half a million would be in the form of a bond, backed by good securities, paying not less than seven per cent. interest.

Rather Enigmatical.—We have received the following letter, and submit it without comment:

Middlebury, Vt., Sept. 15, 1865.

Ed. Co. Gent.—Sir: In your paper of Sept. 7th, you ask me several questions, and request answers. I do not propose to answer any of them at present: but at some future day may answer all of them. Yours,

EDWIN HAMMOND.

Domestic Poultry.—Mr. Judd, 41 Park Row, New-Yord, now our leading Agricultural Book Publisher, has just issued a very neat and useful Manual on this subject, from the pen of Mr. S. M. Saunders of Staten Island. Price—paper, 30 cents—cloth, 60 cents.

Entomology.—We learn that the Publication Committee of the Entomological Society of Philadelphia purpose to publish, and issue gratuitously, an occasional Bulletin, under the title of "The Practical Entomologist," in which papers on the insects injurious and beneficial to vegetation will be given for the benefit of the American farming interest. Those desiring to contribute for this bulletin, and receive it as published, should address E. T. Cresson, Secretary, Philadelphia. The Society is desirous of receiving specimens of noxious insects from different parts of the country, and will endeavor to answer any inquiries by which they may be accompanied, through the medium of the "Practical Entomologist."

☞ Will the vexed questions of Merino pedigrees and nomenclature ever be set at rest? For an allusion to the self-evident fact that the claims of any particular flock "to purity of descent from any one Spanish source," are "surrounded with obscurity,"—we were last winter subjected to a series of attacks in the Sheep Department of a contemporary, of which the best that can be said is, that they were neither a credit to the Agricultural press, nor to the candor of their author. In our columns of Aug. 24th, there appeared certificates showing that Messrs. HAMMOND and ATWOOD respectively in 1847 and in 1844, were selling their sheep as Paulars, and formally asseverating the purity of their descent as such. The entire genuineness of these certificates the Rural New-Yorker of Sept. 2, fully admits. But Mr. Atwood "was mistaken." Mr. Hammond "was mistaken." It now appears that these two men, who have made sheep-breeding the business of their lives, did not know anything about what "one Spanish source" their particular flocks came from! There is no "obscurity," perhaps, in this!

In the CULTIVATOR of 1844, and repeated in the Rural New-Yorker of the 5th ult., similar certificates—only, if anything, less clear, positive and direct, than those of Messrs. Atwood and Hammond—were published to show that certain other sheep had been bought and sold as Paulars, at various periods from 1811 to 1830. There are those who think that there were "mistakes" also in these pedigrees; and the all-sufficient reply to them has been that Judge Lawrence was an honorable man, and that Gov. Jennison was an honorable man, and that to question the correctness of the documents they had signed, is to "involve a sweeping impeachment of witnesses," to charge them with "intentional falsehood," and to give utterance to "slanderous accusations." Why does not the same rule apply in the one case as in the other? Is the "obscurity" any the less? Are the statements of Lawrence and Jennison, at second hand from the breeders, Cock and Bedell, any more sacred and infallible, than the explicit assertions of Atwood and Hammond, breeders themselves? Are Atwood and Hammond, any more than were "Rich, Jennison, etc.," the "kind of men to attempt to *manufacture* a pretended pedigree?"

Of these two horns of the dilemma, raised by the erudition of the Rural New-Yorker on sheep matters, which are we to take—either that Atwood and Hammond, in 1844 and 1847, were entirely ignorant of the sheep they were breeding, or that they "intentionally" presumed upon the ignorance of the public?

But, granting the entire purity at some more or less remote period, of the "Paulars" of Cock and Bedell in 1811 and 1844, and of the "Paulars" of Atwood and Hammond in 1844 and 1847,—we are next met by the confident assurances of the writer who places the above interesting dilemma before us,—that each of the two families, has ever since been kept entirely pure and distinct. Others express doubts on this point. If written certificates are to rate either as utterly unimpeachable on the one hand, or as a parcel of trifling "mistakes," on the other,—just as may suit the purposes of an argument, or to free certain flocks from the imputation of any connection with "second-rate sheep,"—of course either view can be substantiated to the satisfaction of those who hold it. To an outside observer, however, it seems to be sufficient evidence of some "obscurity" in the matter, that the "Paular" name certified to in 1844 and 1847, and the "Infantado" name discovered in or about 1861, neither proving satisfactory, the necessity arose for the "adoption" of some new appellation confined by no narrow limits of pedigree or breed. What should it be?

The leading requisite in the new name, aside from an imposing sound, was an especial association with a particular type of sheep, in the first place, and, in the second, a sweeping grasp including all other Merinos, *nolens volens*. What better name than "American Merino" could be devised? There being no formalities of pedigree required, and no standard of merit except the flock of the one "great improver,"—that flock and its descendants were at once put at the head of all others. Does a judge of sheep prefer some other type,—does he honestly think that the "improved" ram lessens the value of his wool more than it will increase its quantity, or that its merits are the results of a forced system of treatment, and will not be perpetuated in ordinary management, — no matter; "wool-growers' associations" are founded, the class of "American Merinos" is introduced, and, in that class, who can receive awards except those who possess the genuine American-Infantado-Paulars, from the very flock of the originator, the sole and primal source of excellence?

Now this has all been very prettily devised and tolerably well carried out. In this State, a gentleman of established position and weight of influence which it would not do to disregard, happening to be the breeder of Silesians, the establishment of a class of "Broadcloth Merinos" was graciously conceded, and against much opposition a third class was worked in at Canandaigua, in which those who did not repose entire confidence in the "American Merino" might seek a scanty shelter for their lack of faith. And in Vermont, as events have succeeded one another, the feeling of dissatisfaction has been constantly increasing, and now shows itself publicly and strongly through the press.

One man as we understand, had the foresight to perceive the probable fate of the "American" name, and the opposition it would arouse. That man was Mr. HAMMOND himself, at the time when, ostensibly rather against than in accordance with his wishes, if we are rightly informed, the new designation was "adopted" at a little company of Vermont sheep men who elected to call themselves the "New-England [we wonder it had not been the "American"] Wool-Growers' Association." And in the present position of affairs, Mr. HAMMOND himself may throw great light upon various controverted points, and set at rest many injurious rumors which other Vermont breeders are beginning to disseminate. From our Vermont exchanges, from our Vermont correspondents, from the stories that are beginning to be circulated outside of Vermont,—we judge that Mr. Hammond owes it to himself, and his friends and customers, to pronounce distinctly on certain points: 1. Will he kindly say over his own signature that he has kept the Humphreys blood "*absolutely pure*" from his first purchases of Atwood down to the present day,—not "pure" in the sense of breeding in a cross and "breeding it out again," but *wholly unintermixed* with any other strain or breed? 2. Will he kindly say whether, being thus "absolutely pure," he believes his sheep to be either Infantadoes or Paulars? 3. Will he kindly add whether he also calls *his* sheep "Spanish Merinos" or "American Merinos"—in other words, whether *he* has or has not, permanently adopted the latter name? He will please bear in mind that we ask these questions in no captious spirit,—that we would not detract an iota from the great credit he really deserves as a breeder,—and that our only hope is to aid in ending this long talk about names and families, by placing the weight of his established authority on the side of the facts of the case. The public are now alone interested in what Mr. HAMMOND will himself say, and not in what others may choose to say for him. Our columns are open to his reply.

Out of debt, out of deadly sin

Inquiries and Answers.

Plan of a Stock Barn.—I wish to build a barn exclusively for stock, and have the position suitable for a basement stable, and wish to obtain a plan that will enable me to build so as to shelter and feed stock with the greatest ease and advantage. I wish to provide only for oats, hay and stock within the barn. The basement for cattle (fattening) or mules, and the main floor for mares. colts and horses. Now what I wish is for you to send me the best plan you have of a barn for stock purposes. The barn ought to stable 75 or 100 steers and 75 or 100 mares, colts and horses, and hold a large amount of forage. I can have water below and above by pumping, so as to water within doors in bad weather. I must drive entirely through the barn, and this driveway ought to be of sufficient capacity to cut straw, grind corn, or shell it, &c. I have 560 acres, and will another year have it nearly all in grass, intending to cultivate not over 100 acres, almost believing that stock will give me less annoyance and care as to hired help, and my wife much less trouble in the house. J. W. L. *Irving, Ill.* [Our correspondent may construct a barn for his purpose similar in its main features to the design described on page 133 of the ANNUAL REGISTER for 1862, the view of which is given on page 125; and which admits a drive lengthwise through the whole building. The basement may be made like that represented on page 138 of the same number, allowing a curve at each end for the entrance of the team. The capacity of such a barn, or the number of animals intended to accommodate may be increased to any extent by merely lengthening the building.]

Concrete Buildings.—In reply to the inquiry of "W." in your journal of the 3d of August concerning "Concrete Buildings," I would state that his failure arose from want of care in perfectly slaking the lime used, before mixing it with the gravel and stones. Dobson, an English author, says, in regard to the preparation of beton: "The lime must be ground or beaten, and before being mixed with the gravel it must be slaked, and allowed to stand for a considerable time, to ensure the thorough slaking of every particle." The effect of neglect of this, is "that the more refractory particles continue to expand (in slaking) in the interior of the mass, after the outside has set perfectly hard, and the whole becomes more or less disintegrated." M. KINEALY. *Hannibal, Mo.*

Raising Hickory.—I wish to ask if hickory nuts will grow if planted like corn, in rows four feet apart, and three feet between the hills? I believe that it will pay to plant them for hoop-poles if they can be made to grow like corn, so that they can be cultivated with a horse and plow. I planted three bushels of them last year, but they would not grow; but they might have been too dry, or it might have been the wrong time of year—the fall. NATHAN P. FLOREL. *Jennings, Ind.* [The hickory will grow from the nut provided it is kept moist in damp sand, moss or peat, from the moment it drops from the tree, and is exposed to freezing and thawing. Cracking so as not to injure the kernel, would facilitate growth. We are glad our correspondent is attempting to raise timber—its destruction is so general, and so little attention is given to replacing it, that we regard every effort of the kind as true patriotism.]

Time for Cutting Corn-Fodder.—Your valuable paper gave us this season some very interesting articles on the culture of "corn-fodder," but none of them defines clearly when is the proper time for cutting and curing. C. K. [The proper time to cut corn-fodder is when the leaves begin to wither from age—corresponding with the time that common corn becomes well glazed in the ear, the stalks yet remaining green. The stalks may be laid down and dried a day or two in the sun, and then bound with osier, which is best, or with rye straw or cornstalks, and then placed in large, even, erect shocks, and bound firmly with large osiers. If well made they will stand even without sagging until winter, when they will be well dried and may be drawn in as needed. If placed in stacks of considerable size they will heat and ferment, even after drying some weeks in the shock.]

Broom Corn.—Will you do me the favor to recommend to me some work or essay on the cultivation of "broom corn," or elicit from some of your numerous contributors a paper giving the general outline of the cultivation, management, &c., of it as a field crop. My information is scant on this subject, yet I fancy that in our exceedingly fertile valley it would prove highly remunerative. I desire especially to know its greatest and average yield per acre, in pounds of brush and bushels of seed—its greatest and average value per ton—also value of seed as feed for stock, as compared with corn or oats—what character of soil best suits it—what is the proper preparation and cultivation—what quantity of seed is required per acre, how planted, and subsequent management. These and any other facts relating to the cultivation, harvesting, preservation and management of this crop, from the pen of some gentleman of experience, through the columns of the COUNTRY GENTLEMAN, would be no doubt of considerable interest to many, at least to the writer. B. T. *Coalsmouth, W. Va.* [We know of no treatise on the culture of Broom Corn, but all the details for which our correspondent asks, have been given in former vols. of this paper. We shall, however, be pleased to receive from some one well posted on the subject, a full account of its culture, embracing answers to all the above inquiries.]

Implements.—Are Nutting's Fan and Assorting machine, and Aspinwall's Potato Digger, as good implements as they are represented to be? Would a digger pay for six acres good potatoes, where labor is worth $1.50 per day? D. J. S. [Nutting's Fan Mill we certainly consider one of the best machines of its kind. Aspinwall's Potato Digger is worthy of trial, but as to its economy in a field of six acres, we cannot decide.]

Mange on Dogs.—Permit me to inquire through your paper, what is the best way to cure that pest with which dogs are troubled? Mine is a fine Colly dog that "howls" every year with it. I have tried shearing and washing, but without effect. By throwing any light on the subject you will greatly oblige both myself and dog. Y. Z. *St. Pie, C. E.* ["Dinks," in Frank Forester's Dog Book, says that mange is caused by dirty kennels, neglect, want of nourishing, or improper food "Cure—1 oz. of salts, if dog of moderate size. Rub every third day well into the skin quantum suff. of the following mixture: Train oil—tanner's will do—1 quart; spirits of turnpentine, 1 large wine-glass full; sulphur sufficient to let it just run off a stick. Mix well. Three applications are generally sufficient. Let it stay on the animal a fortnight when wash well with soap and water. Remember, it takes nearly two hours to scrub the above into the skin. Smearing over the hair is no use. It must get well into the skin; and if neatly and properly done, the dog scarcely shows the application."]

Where to Buy a Farm.—I have about six thousand dollars which I want to invest in farming, and the question arises, "Where shall I go?" Shall I go to the South, about which I hear so much? The objection here, I think, is the unsettled state of the country, which I think for years will render life and property unsafe. Shall I go to the West? Or shall I remain where I am here in New-Jersey? The objection to the latter plan seems to be, that good land here is so high that my small capital would purchase but a small place, after leaving enough to properly stock it, and a working capital to commence on. Now what I want, is your advice as to where I could invest my capital in a farm to the best advantage in a pecuniary light. A CONSTANT SUBSCRIBER. [Every locality has its advantages and disadvantages—the unsettled state at the South makes fertile land cheaper than it would be otherwise. Our correspondent must decide for himself between these difficulties. Probably if a company of Northern farmers, say a dozen or twenty, or still better, a hundred, could move to some place not very far from civilization, say the Shenandoah Valley, they could assist and protect each other, and prevent the wrongs and disadvantages which an isolated individual would meet with.]

Cans for Fruit.—Can you tell me which is the best can or jar for preserving fresh fruit? G. H. [We have for the last two seasons used Mason's patent Fruit Jar, advertised in this paper, and we consider it altogether superior to anything of the kind we have seen.]

Farmers' Insurance Company.—I recollect an inquiry in the CO. GENT. a few weeks since, asking if there was any Insurance Company which insured live stock. Not having noticed any answer to it, I will give my experience. In the month of August, 1864, I insured my farm buildings and live stock in the Farmer's Joint Stock Insurance Company of Meridian, Cayuga Co., taking a policy of $3.300 for three years, which cost me about $28.50—(80 cents per $100 for three years. I think now they have reduced their rates to 60 cents per $100 for three years.) During the months of October and November I had some sheep killed by lightning while grazing in the pasture. I made my claim for the loss to Mr. E. R. Ballard of our town, the Co.'s agent, who, after hearing the facts of the case, promptly paid the claim. Also in the month of June last I had a fine Black Hawk stallion two years old killed by lightning. I again made my claim on the company, and the demand was promptly paid in full. E. DENNISON. *Forestville, Chautauque Co., N. Y.*

Arbor Vitæ for Hedges.—Will you give me some information for Hedges—how the ground should be prepared—how far apart to plant—what size plants are best—where, and at about what price they can be obtained—how they should be pruned—when is the best time to plant out, and how near a stone wall they should stand? I wish to plant such a hedge inside of a stone wall, on a road front. Will cattle injure it? Please inform me also how to gather the Arbor Vitæ seed, and how to plant and raise the plants. ARBORETUM. [The plants of the Arbor Vitæ may be usually obtained from most nurserymen. The price varies much with the supply and size of the plants—from three to five dollars per hundred, and $20 per 1,000 and upwards. For long lines of hedge, about one foot high is a convenient size to transplant—for shorter distances, two or three feet high may be used, if desired to form screens soon. The Arbor Vitæ is not stout enough for a farm barrier, but forms a fine screen against the wind, and for the exclusion of the sight. For a hedge strictly the distance may be a foot apart, but good screens will be formed in a few years if planted three or four feet apart. This tree does not grow well in the shade, and the interior of the hedge is liable to become denuded of foliage if smoothly and evenly sheared. A better way is merely to cut back the surface with a knife somewhat irregularly. They will grow best on a good fertile soil, and the ground must be kept cultivated for some years for several feet wide. If near a stone wall, there should be good cultivation on one side at least. The seed are secured by gathering the cones before the seed drop. They must be planted very shallow, in fine rich mold, and be shaded from the sun the first season.]

Oats.—A short time back a farmer told me that oats required a "cold bed," and that corn stubble plowed in the fall could be harrowed and sown with oats the following spring without again plowing. Is this so? I understood the reverse was the case. Can you inform whether ashes (pot or pearl, by adding soil or muck to it,) can be made as beneficial to land as the ashes would be before manufacturing, and if so, what proportion of soil, &c., ought to be used for the purpose? I find after barn-yard manure that ashes for most crops, particularly for corn, is best. A SUBSCRIBER. *Nyack.* [It will doubtless be always best to plow the land for oats early in the spring, before sowing the crop. The loosening which it thus receives will be a positive benefit. There may be instances when the delay required to plow wet land will be a greater evil than the imperfect seeding on autumn plowed ground. It would be better to use such land for something else, until drained. The same amount of potash, applied in crude wood ashes or as clear potash, will produce a similar result, provided both are well diffused through the soil. We should prefer the ashes, both on account of its containing other ingredients which may be useful, and on account of the greater facility of spreading and less danger of injuring the plants by being too concentrated and caustic. Ashes or potash are nearly always useful, if applied in moderate doses—say at the rate of 50 or 100 bushels of fresh ashes per acre; but where it already exists in the soil, it would be of no use.]

Moles.—Can you give me any prescription for the banishing of ground moles? Trapping is slow work; my lawn and place is infested with them. S. WANN. *Staten Island.* [Cats are said to be the best animals for destroying ground moles—we have known large numbers to be brought in by them. Rat-terriers would probably be efficient.]

Iron Pipe for Water.—I noticed in the September issue of the CULTIVATOR, an article by J. S. D., relative to "gas pipe," or wrought iron pipe for conveying water. Can you or some of your correspondents, inform me where it may be obtained and the *cost per foot?* J. N. W. *Rupert, Vt.*

Muck Dressing.—Would it answer to put a coating a foot deep, of black salt river mud, on a gravelly piece of land, preparatory to seeding down in grass? I have never heard of its being used, but I should think that the mud thoroughly mixed with gravel, would have a good effect. J. B. P. *Darien, Conn.* [Much will depend on the character of the muck. If grass will grow freely upon it when dry, it will, of course, be an improvement to gravel. Try it first on a moderate scale. A dressing of one foot is very thick—try plots of it at different depths, say three, six, nine, and twelve inches, and note the result.]

Mock Turtle Soup.—Will some kind reader of your excellent CULTIVATOR please give us through its columns, a recipe for making mock turtle soup, and much oblige A SUBSCRIBER'S WIFE. [We look to some of our housekeepers for an answer to the above.]

Roller with Dumping Platform.—Will you or some of your correspondents, give through the columns of the Co. GENT., a plan for a good roller with a platform attached, and so made that a load may be dumped, the same as with a cart. A SUBSCRIBER. *Little Valley, N. Y.* [Will some of our readers who are familiar with the construction and use of this kind of roller, please furnish the details.]

Warts on Cows' Teats.—In answer to the inquiry in No. 6 of Co. GENT., for something to remove warts from cows' teats: Wash with strong limewater. J. H. H. *Urbana.*

Fleas on Dogs.—I have a much valued dog, very badly troubled with fleas. Can you furnish a remedy? B. C. [A correspondent of the London Field answers a similar inquiry as follows:—"One of your correspondents complains of the plague of fleas on dogs. It would be a charitable act to all dogs, if you will insert my receipt, which I have found to answer so very well with dogs of mine, who this year have swarmed with fleas, which insects are innumerable about here. It is as follows: ½ lb. lard and 3 oz. powdered sulphur pressed together through the fingers, then melt. When melted add three wine glasses of tar, which mix well and rub into the dog's coat; leave no part undressed."]

Lawn Mower.—*H. W. P., Guelph, C. W.* We think you can procure such a mower as you want of R. H. Allen & Co., 189 Water-St., New-York.

Subsoiling.—Will you please give some directions for subsoiling? What plow is best—where can it be obtained—is it iron or steel—what is the probable cost of it—how much team is necessary to use it it—how can it be used, and how much can be done with it in a day? A SUBSCRIBER. [Subsoil plows may be obtained at the principal agricultural implement stores throughout the country. They are usually of cast iron. In clayey or adhesive ground, those with narrow vertical shanks run most easily. Small ones are drawn by two horses, large ones by four, and they run in the bottom of the furrow of the common plow, and must consequently be worked with it, going over the same extent of land in a day. The depth varies with the character of the soil and the size of the plow, and varies from six to twelve inches below the bottom of the common furrow. A good subsoil plow may be had for about $12 or $15.]

Tree Diggers.—W. B. of Butler Co., Ohio, inquires for "Tree-Diggers," such as nurserymen use. We suppose he alludes to stout spades. D. B. Barton & Co. of Rochester, have formerly manufactured excellent steel spades for this purpose, bearing the utmost strain of a stout Irishman, and lasting many years. The price formerly was $5 each.

Root Grafting.—A. R. G. of Burnside, Conn., requests some information on root grafting, more particularly in relation to cutting the root into small pieces. We have tried them at different lengths from one to six inches. Very short pieces are not so likely to grow, and when they do they furnish fewer but larger roots, and less of firmly branched fibrous ones—rendering them less valuable for transplanting. When the roots are of strong, one year seedlings, cut three or four inches long, they make good trees and but little, if any, inferior to those worked on the whole root. Budded trees, however, worked on stocks which remain in the rows, generally have better roots than those propagated by root grafting.

Stump-Machines.—Having noticed several inquiries about "stump-machines" in your paper, the last of which, from W. H. L., is accompanied with a request from you for a reply, I will give my experience. In this section we pull *pine* stumps mostly—all sizes up to four feet diameter across the trunk. The large ones pull hard, *very hard.* With our machines, one pair of oxen, and three men, we pull perhaps 20 stumps a day on an average. Machine similar to "Willis'"—that is, a *lever* power. Lever 25 feet long, with six-inch purchase. Chain strong enough to hold the team with that power. Cost of machines about three hundred dollars. They never wear out. Have used these machines more or less for the last nine years. If W. H. L., or any one else, wishes to know more of the particulars, I will reply to any communications on the subject, if they will ask *questions* on the particular point of which they wish to be informed. W. H. BENSON.

Jamestown, N. Y

Smut in Wheat and how to Prevent it.—Take one pound of blue oil of vitriol—dissolve it in two or three quarts of boiling hot water, in some earthen vessel. Then put it in a pail and fill with cold water. Now take ten bushels of seed wheat, on the barn floor, and sprinkle this solution all over it, and shovel it thoroughly, so that every kernel is wet, and in two or three hours it is ready to sow. You may keep it longer just as well, if you dry it and keep it from heating. This receipt is efficient, but if you have very smutty wheat you may raise a little smut the next year, but none after that. O. Pr. *Calumet, Wis.*

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Rabbits in Orchards.—I believe I have found out a protection for my fruit trees from rabbits, the great destroyers in winter. One year ago last winter there was left in my orchard some 20 stocks of corn not husked. The rabbits that winter destroyed many orchards near me, but not a tree of mine was injured by them. Last year I planted my orchard to potatoes and beans; late in the fall I had set out near the margin of the orchard, about twelve rods apart, shocks of corn, and not a tree was injured; so I conclude that all that is necessary is to feed the rabbits, and feeding them is the cheapest protection. G. H. S. *Beaver Dam, Wis.*

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Bees vs. Grapes.—A neighbor, Mr. Swasey, living a short distance removed, has recently had his entire crop, (several bushels, from young vines just come into bearing,) of Delaware grapes, destroyed by bees, by their puncturing the fruit and extracting therefrom every particle of juice, leaving the outside covering or skin and seeds, only a dry mass. Having destroyed all the Delawares, they are now attacking the Concords and other varieties, showing their preference and discrimination in taste, in favor of the Delawares, before making a raid on the other kinds. Shall we exterminate the bees, or suffer them to destroy our best of fruit? I say war on the bees. BRUNSWICK. *Troy, Sept.* 7, 1865.

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A DELIGHTFUL BEVERAGE.

Many attempts have been made with only partial sucecss, to prevent cider from becoming hard after it has been kept a few months. In the early stages of fermentation, and before it has fermented at all, it is a delightful beverage, and a process by which fermentation can be arrested at any desired point, is a *desideratum* entitling the discoverer to the thanks of the public. Such a process has been found by WM. CHAMBERLAIN of Albion, N. Y., who has been experimenting with cider for several years past, for the purpose of attaining that object, and we think he has succeeded admirably, judging from samples of cider prepared by him last fall, which we have had the pleasure of tasting. It is not insipid, like cider fresh from the press, but it is bright, sparkling and piquant. Mr. Chamberlain has not yet put any cider into the market, but designs to do so this fall. It can be made cheaply enough to enable everybody to use it. *Rochester Daily Democrat.*

In relation to the above, Mr. CHAMBERLAIN writes to us as follows: "My preparation is purely vegetable, and will either keep the cider perfectly sweet, or arrest it at any stage of its effervescing that may be desired. It is different from any other way of producing cider, and is certain in its effect."

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Sale of Cotswold Rams.—Burdett Loomis of Windsor Locks, Conn., has sold to S. T. Duell, Hart's Village, Duchess Co., N. Y., his 3 year old ram, "Col. Ware," which received the 1st prize of his class at the New-England Fair held at Springfield, Sept., 1864; also 1st prize at the New-England Fair at Concord, 1865, as a 3 year old. Also to Mr. E. R. Andrews, West Roxbury, Mass., his two year old ram "Guelph," which received the 1st prize in his class at the New-England Fair in 1865; also received sweepstakes medal. Also 1st prize yearling ram to Israel G. Teft, Baltic, Conn., and 1st prize ram lamb to H. M. Hall, East Burke, Vt.

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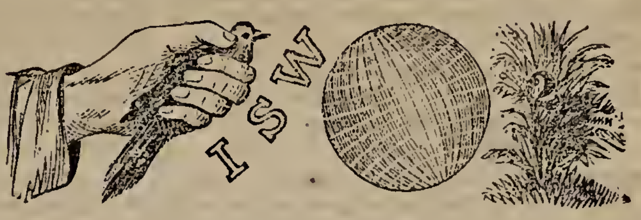
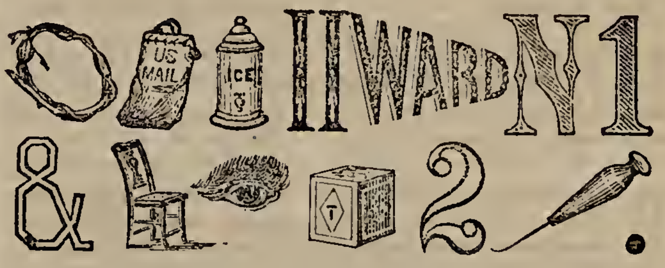
One ounce of direction or of wisdom, is worth two pounds of wit.

Illustrated Rebus---No. 29.



Illustrated Rebus---No. 30.



ANSWERS TO ILLUSTRATED REBUSSES.—No. 26. "You ought to bear in mind one fact, that a rebus is expensive." No.. 27. —"Boys, go at your studies with a will if you want to become great men." (Boys go-at ewer stud-e-e withea *will* if ewe w-ant toe bee-come grate men.) No. 28.—"Washington, first in war, first in peace, first in the hearts of his countrymen."

The Cattle Plague.—This fearful disease seems to be extending in Great Britain, and the papers continue full of letters and discussions on the subject. Such cases as the following are reported:

The fine herd of Ayrshire cows, kept at Holly Lodge, Highgate, the property of Miss Burdett Coutts, has been literally swept away during the last ten or twelve days by the plague which is now so prevalent. The herd numbered 20 cows of the purest Ayrshire breed, and an Alderney bull. One cow has recovered from the disease, and the bull was unaffected by it. The cow that has survived was condemned by Mr. Mayor, veterinary surgeon, and, according to the testimony of Roach, the herdsman, was pronounced to be in the very worst condition, and the medium through which the disease was communicated to the other animals. The destruction of this herd by the disease suggests one or two reflections as to its origin and nature. Every one of the presumed causes of the disease was absent, and yet it attacked the animals with the utmost virulence, and no amount of remedial skill could allay its severity or arrest its progress. The herd had been some time at Holly Lodge; therefore it was not tainted with any imported cattle: it was in excellent condition, and several of the cows were yielding from sixteen to eighteen quarts of milk per day: the sheds in which the animals were milked were clean, airy, lime-washed, and every kind of ordure removed, besides being also well gravelled: the pasture was not only good, but rich, and the water pure; so that as far as food and treatment could keep a herd of cattle in first class condition, there was everything that could be desired. Yet the animals sank rapidly, and some of them exhibited the worst characteristics of a disease which, it is asserted, exhibited the usual symptoms of pleuro-pneumonia, viz., either excited with staring gaze, protruding eyeballs, and watery eyes, or depressed and relaxed, with a dull, dim look, and a flow of mucus from the eyes and the nose; a cold shivering, and a coolness of the horn, the ear, and the extremities, with staring coat, trembling of the muscles, and increased respiration. Foam and saliva flowed from the mouth, and the lungs of the animals were swollen much beyond their natural size in almost every instance.

◆ ◆ ◆

Seedling Grape.—I. W. Briggs of West Macedon, N. Y., sends us samples of a seedling grape raised by him, which he says is pronounced by good judges a good wine grape. The plant stands in the open ground entirely unprotected, and has never been injured by our winters. It has fruited three years, "always proving some ten or twelve days earlier than the Delaware, and is considered perfectly hardy."

KERRY CATTLE FOR SALE—*Bulls, Cows and Heifers*, from imported stock, by R. BRADLEY,
Sept. 21—w4t. Brattleboro, Vt.

FOR SALE—*Short-Horn Bull* "FIELD MARSHAL," bred by Samuel Thorne, Thornedale, N. Y., calved April 10th, 1859. R. BRADLEY,
Sept. 21—w4t. Brattleboro, Vt.

WEBB SOUTH-DOWN RAM FOR SALE.—Bred by Mr. Taylor of New-Jersey; got by his celebrated "No. 89," out of an imported ewe. He is 2 years old, in good condition, and a sure stock getter. Address
E. B. HUNTINGTON,
Sept. 21—w2t. Box 658, Hartford, Conn.

GOLDEN SPANGLED HAMBURGHS.—Perpetual layers, non-sitters, eggs large, weight at maturity 10 to 12 pounds per pair, and color uniform. *Seven pairs* from imported stock for sale, price $3 per pair, boxed and shipped as required. Apply to THOMAS GOULD,
Sept. 21—w2tm1t. Aurora, Cayuga Co., N. Y.

ROADSTERS, MERINO SHEEP & ANGORA GOATS.—One pair of black Morgan Mares, 4 years old, well mated. one by Cottrill Morgan, the other by Vermont Boy. One bay Gelding, 5 years old, by Cottrill Morgan, and one black Stallion, 5 years old by Vermont Boy, all broke to saddle and harness. Also Spanish Merino Bucks and Ewes, and a few Angora Goats. JOHN S. GOE,
Sept. 21—5wt. Box 13, Brownsville, Penn.

GREAT SALE OF

Thorough-Bred Ayrshires and

THOROUGH-BRED JERSEY STOCK.

JOHN R. PAGE, Auctioneer.

Will be sold at the GILES FARM, South Woodstock, Conn., 2½ miles from Putnam Station, Conn., on the Norwich and Worcester Railroad,

Wednesday, October 18, 1865.

Ayrshires, 30 head of COWS, HEIFERS and BULLS, among them the celebrated cow Jean Armour, imported by H. H. Peters, Esq., and several other choice imported animals, of which warranted pedigrees will be given.

Also at same time and place, 20 head of thorough-bred Jerseys, consisting of COWS and HEIFERS, all of the cows served by a pure-bred Jersey bull, and are now in milk, some will drop their calves in December and February next. A warranted pedigree will be given to each animal. We call the attention of gentlemen wanting such stock, and with confidence say that a finer herd of Ayrshires and Jerseys was never offered on this continent before, the Ayrshires being deep milkers, and the Jerseys having given from 12 to 16 pounds of butter each the last season. Catalogues can be obtained ten days before the sale by applying to the Auctioneer or to H. N. Thurber, Pomfret Landing, Conn., or to John Giles. South Woodstock, Conn. H. N. THURBER,
JOHN GILES, Pomfret Landing, Conn.
South Woodstock, Conn. Sept. 21—w4t.

MORETON LODGE, GUELPH, C. W.

Sixth Annual Sale of Pure-Bred

SHORT-HORNED AND HEREFORD CATTLE,

COTSWOLD. SOUTH-DOWN & LEICESTER RAMS,

Berkshire Pigs, Aylesbury Ducks and Dorking Fowls.

Mr. KNOWLES has received instruction from Fred. Wm. Stone, Esq., of Moreton Lodge, Guelph. Canada West. to SELL BY AUCTION, without reserve, on *Wednesday, the 4th day of October*. a choice selection of about twenty-five head of young BULLS, COWS and HEIFERS, in good condition, from his celebrated herds of *Short-Horned and Hereford Cattle*, bred from some of the most fashionable and well known herds of the day. Also will be offered about forty magnificent Shearling and older RAMS, consisting of full-blooded *Cotswolds*, *South-Down* and *Leicesters*, in fine condition, large size, good quality and well wooled. got by the Prize Rams. And about twenty prime young *Berkshire Pigs*, (boars and sows.) of the purest blood.

TERMS—Under $25, cash; $25 to $100, three months: over $100, six months credit on approved endorsed notes, if required. Sale to commence with Pigs and Poultry at 10 o'clock A. M.; Luncheon at 12 M.; sale resumed promptly at 1 P. M. Catalogues with pedigrees and other particulars may be had on application to Mr. KNOWLES or Mr. STONE,
Aug. 31—w5t. Guelph, Canada West.

FOR SALE—*Short-Horn Cattle, South-Down and Cotswold Sheep*, at our farm near Lexington, Kentucky. Catalogues sent on application.
Aug. 31—wtf. WILLIAM & BEN WARFIELD.

HEREFORDS FOR SALE.—A few Thoroughbreds, consisting of BULLS, COWS, CALVES, &c., bred om the best Imported Stock. G. CLARKE,
Dec. 17—wtf. East Springfield, Otsego Co., N. Y.

FOR SALE.

Two Merino Bucks,

2 and 1 years old, of the Atwood breed. Price, $25 each. Address F. E. JUDSON,
Oct. 1—m1t. Bethlehem, Conn.

MERINO SHEEP FOR SALE.—Five *first class* EWES, purchased of Edwin Hammond, at a high price, in March, 1862. Also 8 or 10 BUCKS, bred from these ewes and sired by Old Grimes—two of the latter are superior animals. Also Bucks and Ewes from my old stock, which are as pure in blood, and equal in quality to any in Vermont.

Can take a few more ewes for Old Grimes—terms of service, $50 per ewe, or one-half the lambs—none but first class ewes received. For further information call upon or address
Sept. 7—w13t. GEO. CAMPBELL, West Westminster, Vt.

WEBB SOUTH-DOWNS.—Thirty EWES, 25 EWE LAMBS, 20 RAM LAMBS and YEARLINGS and the celebrated IMPORTED RAM ARCHBISHOP, for sale this fall. GEORGE H. BROWN,
Millbrook, Washington Hollow,
Aug. 24—wtf. Duchess Co., N. Y.

IMPROVED SHORT-HORNS FOR SALE.—The get of Sixth Duke of Thorndale.
GEORGE H. BROWN,
Millbrook, Washington Hollow,
Aug. 24—wtf. Duchess Co., N. Y.

IMPROVED SHORT-HORNS.—The subscriber offers for sale at reasonable prices, a few young BULLS and BULL CALVES of great promise. Apply in person at ELLERSLIE FARM, one mile south of Rhinebeck Station, Hudson River Railroad, or by letter addressed to
July 13—wtf. WILLIAM KELLY, Rhinebeck, N. Y.

FOR SALE.

Thorough-bred Horses,

TROTTING HORSES,

SHORT-HORN CATTLE,

SOUTH-DOWN & COTSWOLD SHEEP,

AT WOODBURN FARM,

SPRING STATION, WOODFORD COUNTY, KY

R. AITCHESON ALEXANDER.

July 13—wtf.

CHESTER COUNTY WHITE AND

Prince Albert Pigs

FOR SALE, not akin, best blood in the country, $18 per pair. Apply to R. L. PELL,
June 8—w&mtf. Pelham Farm, Ulster Co., N. Y.

THOROUGH-BRED DEVONS FOR SALE.

Bulls and Heifers.

Address JOSEPH HILTON,
June 2—wtf. New Scotland, Albany Co., N. Y.

JACKS AND JENNETS—From imported stock constantly on hand, and raised by
J. T. WARDER,
May 18—wtf. Springfield, Clark Co., Ohio.

THOROUGH-BRED DEVONS FOR SALE.—

SAMUEL FAILE,

Ridge Farm, White Plains, Westchester Co., N. Y.,
Offers for sale, from the stock imported by the late Edward G. Faile, West Farms, a few BULLS and HEIFERS of superior quality. All stock sold will be delivered at Railway free of charge. White Plains is located on New-York and Harlem railroad, about one hour's ride from New-York city.
March 16—wtf. SAMUEL FAILE.

SHORT-HORNS, AYRSHIRES

And Alderneys—for Sale by

C. I. HAYES,
Feb. 18—wtf. Unadilla, Otsego Co., N Y.

IMPROVED

Horse Stock for Sale.

THOROUGH-BREDS, HALF BREDS, TROTTERS
and ROADSTERS. E. N. WILLCOX,
Nov. 3—wtf. Whitewood. Detroit P. O., Mich.

LADIES READ!—EVERY WOMAN'S FRIEND.—A most wonderful discovery in the properties of medicine, made through the mysterious powers of the

GREAT MEDIUM PHYSICIAN,

DR. S. YOUNG. Send for Descriptive Circular, enclosing 3 cent stamp, to DR. S. YOUNG,
Aug. 24—w2tm2t. Post Office Box 365, Troy, N. Y.

FOR SALE—A few pure blood *Merino Ewe Lambs and Ewes*, with first class pedigrees, and three superior RAMS Also two pure blood, 3 year old *Shropshire Rams* from imported stock, with first-class pedigrees. Weight over 200 pounds each.
WM. BEEBE,
Aug. 24—w5t. Northport, Suffolk Co. N. Y.

SOUTH-DOWN SHEEP FOR SALE.—I offer a fine lot of pure SOUTH-DOWN SHEEP bred from importations of Thorne, Taylor and E. Cornell of Ithaca. Ewes from 1 to 3 years old, and lambs of both sexes. Prices low.
Aug. 24—w8t. GEO. HARTSHORN, Rahway, N. J.

SOUTH-DOWNS FOR SALE.

Rams, Ram Lambs, Ewes and Ewe Lambs.

Bred from the flock purchased of EDWIN THORNE—the yearlings and lambs all by an imported ram—the whole strictly of first quality. Address
ELIHU GRIFFIN,
Aug. 24—w10t. Clinton Corners, Duchess Co., N. Y.

COTSWOLD SHEEP FOR SALE.—A few thorough-breds, consisting of

Bucks, Ewes, Lambs,

&c., from best imported stock. WILLIAM REYBOLD,
Aug. 17—w13t. Delaware City, Del.

SOUTH-DOWN SHEEP FOR SALE.

A Very Choice Lot of

RAM AND EWE LAMBS.

Also EWES and YEARLING RAMS, bred from a ram imported from Jonas Webb.
SAMUEL I. SHARPLESS,
Street Road Station, Chester Co., Penn.
And 704 Walnut-St., Philadelphia. Aug. 10—cow4t.

SHEEP, HOGS AND GOATS.

Vermont Spanish Merino Bucks,

FIRST PRIZE CHESTER WHITE PIGS,

CASHMERE SHAWL GOATS, &c.

H. C. GRAFF,
Aug. 3—w9t. Maysville, Col. Co., Ohio.

LEICESTER SHEEP,

ALDERNEY HEIFERS,

FOR SALE.

WILLIAM REDMOND,

45 Barclay-Street, New-York.

July 27—w9t.

FOOT ROT IN SHEEP

Can be Thoroughly Cured by Using

WHITTEMORE'S CURE FOR FOOT ROT

IN SHEEP.

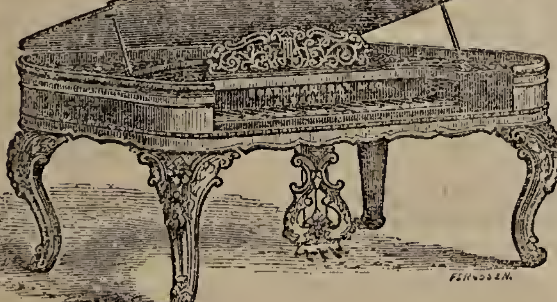
It has been tested in most sheep-growing districts, and has effected

Positive Cures where Everything Else Failed

Certificates can be sent on application to the proprietor. Ask for Whittemore's Cure. For sale by all Druggists, and by POST & BROFF, Rochester, N. Y., WIGHTMAN & Co., Bath, N. Y., also by the sole proprietor,
F. W. WHITTEMORE,
July 13—w14t. Chatham Four Corners, N. Y.

BOARDMAN & GRAY'S

Patent Improved



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WILLIAM McCAMMON

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☞ SEND FOR ILLUSTRATED PRICE LIST. Mar 23—w&m.

THOMAS WOOD,

Penningtonville, Chester Co., Penn.,

continues to ship to order, to any part of the Union, his celebrated PREMIUM

Chester County White Hogs,

in pairs not akin, on reasonable terms. June 15—w6mos.

SHORT-HORNED CATTLE.

SAMUEL THORNE, Thorndale,

WASHINGTON HOLLOW, DUCHESS CO., N. Y.,

Offers for sale a few very superior COWS, HEIFERS and BULLS. Catalogues of the herd sent by mail on application, and the herd is at all times subject to the inspection of visitors.

☞ THORNDALE is 14 miles from Poughkeepsie Station, on the Hudson River Railroad, and 8½ miles from Dover Plains on the Harlem Railroad. Dec. 1—wtf.

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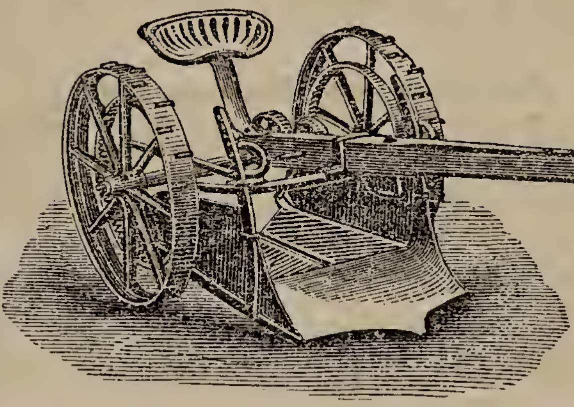
Patent Potato Digger.



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Send for Circular to

L. AUGUSTUS ASPINWALL,
July 20—wtf. Ireland's Corners, Albany Co., N. Y.

TICKS, SCAB, VERMIN.

SheepWashTobacco

SHOULD BE USED BY ALL FARMERS ON

SHEEP, ANIMALS & PLANTS.

JAMES F. LEVIN, Agent South-Down Company,

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GRAHAM, EMLEN & PASSMORE, Philadelphia.
JOHNSTON, HOLLOWAY & CAMDEN, Philadelphia.
March 29—w29t.

ENDLESS CHAIN AND LEVER

HORSE POWERS,

THRESHERS AND CLEANERS,

Threshers and Separators,

CLOVER HULLERS, CIRCULAR & CROSS CUT WOOD-SAWING MACHINES, CIDER MILLS, BROOM CORN SCRAPERS, &c., manufactured by

G. WESTINGHOUSE & CO., Schenectady, N. Y.

Send for Circular, containing full description and prices of above named machines. Address
G. WESTINGHOUSE & CO.,
May 18—w1amtf. Schenectady, N. Y.

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NEW GOODRICH SEEDLING POTATOES.—I will sell a few barrels of Early Goodrich, Calico and Gleason potatoes. Price—Early Goodrich, $1.25 per peck, $1 per bushel, or $10 per barrel; Calico and Gleason, $1 per peck, $3 per bushel, or $7.50 per barrel. For particulars send for Circular.
C. W. GLEASON,
Sept. 28—w4tm1t. Holden, Mass.

GOLDEN SPANGLED HAMBURGHS.—Perpetual layers, non-sitters, eggs large, weight at maturity 10 to 12 pounds per pair, and color uniform. *Seven pairs* from imported stock for sale, price $3 per pair, boxed and shipped as required. Apply to
THOMAS GOULD,
Sept. 21—w2tm1t. Aurora, Cayuga Co., N. Y.

The Annual Register of Rural Affairs---1866.

The Twelfth Number of The Annual Register of Rural Affairs, for 1866, is now in press. The usual amount of labor and expense have been laid out upon its contents and illustrations, and we think it will rank as one of the most interesting and useful numbers in the series.

The purpose of this notice is to apprise Advertisers that a limited number of pages will be devoted to their wants, as heretofore. The Annual Register remains as a work of constant reference throughout the year; it reaches thousands who are not subscribers for either of our other publications, besides its purchase by a very large majority of the subscribers to the Country Gentleman and Cultivator. The back numbers remain in demand year after year, so that the advertisements *are constantly brought into new hands*. And, as the sales of the Annual Register continue large, not only throughout the Autumn and Winter, but also late into the coming Spring, we may suggest that advertisers should bear in mind this fact in the preparation of their favors: manufacturers of Mowing and Reaping Machines, Plows and other Implements, as well as Nursery and Seedsmen, Breeders, etc., will "be first in the field" for 1866, by taking this medium of reaching the Agricultural Public.

TERMS OF ADVERTISING IN THE ANNUAL REGISTER.

One Page,	**$30.00**	**One Third Page,**	**$12.00**
One Half Page,	**18.00**	**One Fourth Page,**	**9.00**

Business Cards, (Live Stock, &c.,) $5.

Our friends will oblige us by sending their advertisements *as soon as possible; the space desired should be specified*, in order that the matter may be set as conspicuously as the prescribed limits will permit.

☞ Many have been disappointed in securing advertising space in the Annual Register, each year, from failing to make their wishes known in season. Some of our largest and most constant advertisers were thus excluded from the last number. Those who are not prepared to send "copy" at once, which is not absolutely necessary, can be accommodated by bespeaking the space desired, and we will inform them, in due season, when the advertisement itself must be put into the printer's hands.

Albany, August, 1865. LUTHER TUCKER & SON.

SCRIBNER'S TAX PAYER'S GUIDE.—*G. W. Fisher, Rochester, N. Y.* This guide contains just so much of the
REVENUE LAWS!
as is needed by every tax-payer, and adapted to their wants in making income returns. Six copies mailed to one address on receipt of $1; single copies 20 cents each. Address the subscriber.
J. M. SCRIBNER,
Sept. 7—w&m1t. Middleburgh, N. Y.

TRUE DELAWARE GRAPEVINES—From the original vine. Also Iona, Israella, Adirondac, Allen's White Hybrid, Concord, Crevelling, Diana, Hartford Prolific, Roger's Hybrids, Rebecca, Anna, Maxatawney, and all other desirable varieties.
CURRANTS, RASPBERRIES and STRAWBERRIES of the improved kinds. Plants of best quality. Prices moderate. Send stamp for Descriptive Price List to
Sept. 28—w8tm1t. GEO. W. CAMPBELL, Delaware, Ohio.

SHETLAND PONIES.—Very superior Shetland Ponies for sale. Inquire of CHRISTOPHER SMITH,
Sept. 28—w2t. Care of Rev. Dr. Lord, Buffalo, N. Y.

HEDGE PLANTS—200,000 OSAGE ORANGE and HONEY LOCUST for hedging, at $8 per 1,000; $60 per 10,000; $100 per 20,000, at BUIST'S NURSERY,
Sept. 28—w3t. Darby Road, Philadelphia.

WANTED—A man with a small family to take the management of a farm of 50 acres.
Sept. 28—w4t. F. W. NOBLE, Easton, Penn.

R. BUIST, *Nurseryman, Darby Road, Philadelphia*, offers a very choice lot of CHINESE AZALEAS, embracing every new variety, either as specimens, or by the hundred to retail, at favorable rates. Sept. 28—w3t.

FRUIT TREES—Of extra sizes and in quantity, for sale by
R. BUIST, Nurseryman,
Sept. 28—w3t. Darby Road, Philadelphia.

GOLDEN ARBOR VITÆ and FAN LEAVED ARBOR VITÆ, beautiful specimens, by the hundred or thousand, at very reasonable rates.
R. BUIST,
Sept. 28—w3t. Darby Road, Philadelphia.

THE CULTIVATOR.

THIRD] TO IMPROVE THE SOIL AND THE MIND. [SERIES.

VOL. XIII. ALBANY, N. Y., NOVEMBER, 1865. No. 11.

PUBLISHED BY LUTHER TUCKER & SON,
EDITORS AND PROPRIETORS, 395 BROADWAY, ALBANY, N.Y.

TERMS—EIGHTY CENTS PER YEAR—Ten copies of THE CULTIVATOR and Ten of the ANNUAL REGISTER OF RURAL AFFAIRS, with one of each free to the Agent, Eight Dollars.

THE CULTIVATOR has been published thirty-one years. A NEW SERIES was commenced in 1853, and the twelve volumes for 1853, 4, 5, 6, 7, 8, 9, 60, 61, 62, 63 and 64, can be furnished bound and postpaid, at $1.25 each—the set of 12 vols. sent per express for $12.

"THE COUNTRY GENTLEMAN," a weekly Agricultural Journal of 16 quarto pages, making two volumes yearly of 416 pages, at $2.50 per year, is issued by the same publishers.

The Cultivator & Country Gentleman.

DISCUSSIONS AT THE N. Y. STATE FAIR.

Tuesday Evening, Sept. 12.

Management of Pasture Lands.

The discussion of the first evening was upon the subject, "*Ought Pastures for the Dairy to be kept permanently in Grass, or to be renewed by plowing and re-seeding?*" The meeting was well attended, the President, Hon. T. C. Peters, in the chair, who stated that a general interest was felt in these discussions. He asked every man who spoke to express his views and experience. It was intended to be a plain farmer's meeting, for the interchange of opinion, and the interests of all. The meeting was then opened by the reading of the following paper, by Mr. X. A. WILLARD of Little Falls:

I do not propose to occupy much time in the remarks I have to offer. There are many here, doubtless, who have had large experience in the treatment of pasture lands, and it is desirable to get their views on this question. It is a subject of great importance to the dairy interest. To know how to produce milk cheaply, and of the best quality, is the underlying stone of the dairyman's success.

The points to be determined, it seems to me, are these: What kind of pastures are best for the dairy? Are they those which have been long in grass, or are they those which have been recently plowed and re-seeded? Can pastures be kept productive when remaining long in grass, or, in beginning to fail, is it necessary to renew by plowing and re-seeding? and finally, what are the cheapest, as well as the best modes of obtaining quality and productiveness of pasturage?

In considering these questions it should be borne in mind that the subject has reference to pastures for the production of milk, or those adapted to the diary. Soils vary in character, and when under the modifying influence of climate and location, exhibit a peculiar fitness for certain plants; thus we have those best adapted to the production of grain, grass, fruit, or for plants abounding in textile fiber.

The Creator, in his infinite wisdom, seems to have mapped out the earth in broad divisions, indicating by unmistakable signs, the line of agriculture to be pursued in each. The wheat and corn regions extend over an immense surface, because these cereals are largely demanded for man's sustenance.

The dairy region is comparatively small, with marked topographical features. The land generally is more uneven, being broken up in hills and valleys. It is provided with numerous springs and streams of living water, and located within the rain belts, where the moisture from frequent summer rains and the deep and long continued snows of winter operate to protect the roots of grasses, and secure a perfect growth of fresh and nutritious verdure.

You cannot profitably carry the dairy upon the extensive plains of the west and southwest. They lack water. Pastures become brown and dried up long before mid summer, nor will they hold the grasses of any approved kinds for any long time. We are not, therefore, to consider the treatment of all pasture lands alike, but of those that are particularly well adapted to grass, and which cover a considerable portion of the central counties known as the dairy region. Now what are we to do with pasture lands that begin to fail from over cropping or from other causes? Shall we plow them up and re-seed or shall we adopt some other mode of renovation? I know of pastures that have been in grass for sixty years and upwards, and to-day show no signs of failure. Wherever I have been through the dairy region I find these pastures,—and it is the universal testimony of those who have them that they are yielding better returns in milk than any recently re-seeded grounds. I have seen old pastures plowed and re-seeded and put in meadow when the annual crop for a few years was large, but when put back again in pasture gave poor returns and took years in obtaining a nice thick sod. This may not always be the case, but it is frequent, and I am inclined to think general.

It may be said that the fault lay in re-seeding,—that a greater variety of seed should have been sown, timothy, the clovers, orchard grass, blue grass, red top, &c. Our farmers generally, I believe seed mostly with timothy, clover and red top, using the ground at first for meadows, and afterwards for pastures. What we want, (and it is that which usually obtains in old pasture) is a variety of grasses springing up in succession, and those that will bear cropping, so that pastures will afford a good fresh bite from May to Nov. Old grasses are generally filled with a varitey of plants that are adapted to the soil, and in plowing and taking off grain crops, and then re-seeding, the conditions or elements of fertility are somewhat changed, so that anticipated results are not always obtained. In 1855 I plowed up on old meadow, about 2 acres of which was yielding large crops of timothy and clover, but so situated in the field that the hay crop could not be got off in time. I took from these two acres the first year 180 bushels of corn, and the second year 100 bushels of barley, when the land was seeded down with timothy and clover. For two or three years it did not produce satisfactorily, though receiving the usual dressing of plaster, and I top dressed it with stable manure, perhaps 20 loads to the acre, but without getting the large crops of grass that I did before reseeding. Some mineral element therefore I supposed to be wanting, perhaps potash and soda, and so I top-dressed with ashes and salt, and had no farther trouble. I have seen quite a number of old pastures that were yielding tolerably well, plowed with somewhat similar results. The land would bear abundant crops of grain, but grass failed to be enduring, or was less nutritious, and hence frequent plowings and re-seedings were resorted to. I visited Mr. Butler's farm near New-Hartford, last year. He buys cattle and fattens them for the market, and he said to me that he had never been able to fatten stock with that facility from grass raised on newly seeded grounds as on that of those put down many years ago, or from pastures that had never been broken at all. Many others make similar statements.

I shall not dispute the point that we can doctor up our lands to produce any desired crop, but to do so may be expensive, and will often require more science and skill than are common in the country. When nature furnishes the condition for producing grasses that give the best result in milk, and when these grasses become firmly established in the soil, are we not pursuing a suicidal policy in destroying them by over-cropping, or by sowing weeds to smother and crowd them from the soil, under the impression that our pastures can at any time be renewed by plowing and reseeding?

Would it not be better and cheaper to exterminate weeds, and give our pastures some rest during the hot dry weather of July and August by feeding sowed corn, instead of cropping down to the roots, and allowing the sun to roast them out and destroy the plants? It is the weeds and over-cropping, and unprotected covering of pasture lands in hot weather, that are the fruitful sources of failure of grass in pastures. Generally on the soils of Herkimer, the old dairy pastures need little if any organic matter; the decay of roots and the droppings of stock supply that matter in abundance, and hence the application of mineral manures is all that is needed. These, of course, can be supplied cheaply, but if we are to plow up and take off grain crops, barn-yard manures must be used, which are more expensive.

Now it is very unprofitable for the dairyman to break up lands that are yielding, or that can be made to yield readily, good crops of grass. Our most successful dairymen believe that grain can be purchased from abroad cheaper than they can raise it. Grain-raising, therefore, with many is considered a matter of necessity rather than choice, but grass fails, and the lands are plowed and reseeded. This may be well enough for meadows, but is not so conveniently managed in pastures. If a part of your pasture lands begins to fail, and it is designed to plow and reseed, the land must be fenced, which is expensive, and often very inconvenient. But after getting it down to grass, cattle cannot be turned in until the plants become somewhat established, as they tread up the ground, pull out the grass by the roots, and by mid summer you have a barren field. Again, to plow pasture lands the herd must be reduced to meet the necessities of the case. This is also an objectionable feature, and one that is distasteful to the dairyman.

When grass *utterly fails,* plowing and reseeding doubtless should be resorted to; but generally pasture lands may be kept permanently in grass by giving them a little extra care and attention. If they begin to fail from over-cropping or neglect, a judicious course of top-dressing and sowing seed will generally be found preferable to the plow.

Usually on the black slate lands of Herkimer, plaster at the rate of 100 to 200 pounds to the acre, every alternate year, will keep pasture lands in good condition. I have found great benefit from the use of ashes, in connection with plaster, at the rate of two or three barrels per acre. Well decomposed horse manure, hauled out in the fall and broken up fine, and applied when cows are in the afterfeed, has produced good results. My old pasture contains about 45 acres, and carries one year with another 30 head of cattle and span of horses. I have no doubt but that all pasture lands in the dairy region would be greatly benefitted by the application of bones, as this material is largely taken from the soil. Ashes are valuable in eradicating mosses and in furnishing food for grasses, and are worth at least 25 cents a bushel for most of our grass lands. Lime is of great service to some soils. Six years ago I limed an old sidehill meadow, mossed over and not producing. It was applied at the rate of 40 bushels per acre, and the annual crop of grass ever since has been good.

I am inclined to think that good old pastures produce a better quality of milk than those recently reseeded, and that it would be cheaper and better to renovate by top-dressing than to plow and re-seed. The trouble with recently reseeded pastures is the grass early in the season is apt to be rank, watery and more flashy than the thick fine herbage of old pastures. Considerable portions of it often get the start, and soon become woody, and are rejected by stock. A recently re-seeded pasture will not bear cropping like one that is old. The larger varieties of grasses are so rank as to crowd out the smaller and finer grasses, which are the most valuable for the production of milk. The feed in old pastures springs up earlier and lasts longer than on grounds recently re-seeded. White clover and June or blue grass are valuable for producing milk; they are indigenous on our dairy soils, and are generally abundant in old pastures, where they seem to thrive best. The character of food which a cow eats has a greater influence on the quality of milk she yields than many imagine.

During the drouth last season, when the cows began to eat the tufts and portions of pastures that had been rejected or left to grow up high and rank, the quality of milk was so depreciated that it took from 12 to 13 pounds of milk, and in some instances more, to make one of cheese. You may, perhaps, get more qulk of grass by plowing and re-seeding, and yet obtain poorer results in milk, than from the old thick sward that has been broken up. One great source of failure and decline of grass in old pastures, is overstocking. The lands are crowded to their utmost capacity year after year, and receiving scarcely any attention, must of course succumb at last. Again, weeds are allowed to go to seed and get possession of the soil, and where they thus overrun the grounds and destroy the grasses, doubtless the best course to be adopted is to plow and re-seed; but the true course is to pay attention to pasture lands in season, giving them an occasional top-dressing, scarrifying the surface in spring, and sowing here and there upon patches that are beginning to fail. As a top dressing, sawdust in which the liquid manures have been absorbed, applied in fall or spring, gives great vigor and growth to grasses. It can be spread over the surface in a finely divided state, and is in condition to be available to plants.

Road scrapings and composts of muck, earth and manures, applied in the fall and pulverized over the surface with a brush harrow, together with the use of ashes, plaster and lime, all of which are available to farmers, will be found of service in keeping up a permanent pasture. And it is believed by taking a few acres annually and treating them with manures, better results will be obtained at less cost than in plowing and re-seeding. I may remark that in the use of barnyard manures, fresh cow dung ought not to be used on pastures for the dairy, as it produces grass distasteful to dairy stock, and some claim it to be the cause of abortions.

Thursday Evening, Sept. 14.

The Culture of Tobacco.

The subject for discussion at the Common Council rooms, Thursday evening, was, "The best method of Cultivating and Curing Tobacco; Lands best suited for its Culture; its Value as a Crop." Mr. GEDDES of Onondaga, presided. He introduced Mr. CHESTER MOSES of Onondaga, as the opening speaker, stating that he was the pioneer tobacco cultivator of Onondaga.

Mr. MOSES entered upon his subject by stating that there was little room for speculation on the subject of tobacco growing, and proceeded to give a detailed history of the raising of a single crop. He advised the sowing of seed as early as possible, so that the plants could be transplanted between the 15th and 25th of June; and that careful inspection be made daily for a week or two to prevent the cut-worm. The leaves of the plant, when transplanted, should be about the size of a half dollar. As soon as large enough, the plants should be carefully hoed and cleared of weeds, till the maturity of the crop in August. The cooler and more moderate the weather, the better is the plant, which usually obtains its growth in from 40 to 50 days. The plants should be carefully topped, which causes the plant to throw out suckers, and the suckering process is repeated as often as may be required. At maturity, the plant is cut near the root with a hatchet, and carefully cured, occupying from two to three months in the dry room. The leaves should be hung well apart to prevent pyle burning and allow a free circulation of air. A constant circulation of the juices is kept up during this process. When the curing process is nearly finished, it is best to wait for a few damp days to moisten the leaves, which prepares the stalk for stripping. In sorting the leaves a careful distinction should always be made between the whole and perfect leaves and the imperfect ones. In packing, the best teacher is experience. Through both cultivation and packing the greatest care should be taken to avoid breaking the leaves. The lands best suited to tobacco are warm sandy loams, the sand predominating, and the land should be highly manured, as the rapid growth of the plant requires full sustenance. The soil should be well harrowed and prepared for the setting of plants. Many losses have been experienced by ignorance in regard to the treatment of soil and the kind used. Compact or well-rotted manure should be used. Guano is used with excellent success in Connecticut; and the strongest kinds are the best. He regarded from 1,500 to 2,000 pounds as a good crop. Last year the crop sold for from 20 to 25 cents. This year the crop is selling at an average of 10 cents.

Mr. SOLON ROBINSON here stated that a grower in Massachusetts raised 2,400 pounds to the acre, and sold it at 40 cents per pound last year.

Mr. M. resumed by explaining that the tobacco cultivators of Connecticut were so much better accustomed to raising the crop that they save a much larger per centage of the leaf, making a difference of from 33 to 50 per cent. in their favor.

Mr. ROBINSON stated in relation to the land used in growing tobacco, that it was a mistaken idea that the richest land should be adopted. He had seen one of the best crops ever raised, grown on some of the poorest land in Springfield, which had been, however, thoroughly manured. The land cost $7 per acre and gave 1,500 pounds at least to the acre, and brought from 30 to 40 cents per pound.

Mr. MOSES thought that Mr. ROBINSON's experience was unparalleled, and he asked Mr. ROBINSON how much corn the same land would have grown.

Mr. ROBINSON replied about ten bushels.

Mr. GEDDES thought that the nature of the two crops was so widely dissimilar that Mr. ROBINSON's opinion was easily accounted for.

In reply to a question, Mr. ROBINSON stated that the crop should be manured in the hill.

Mr. MOSES also stated that the ground should be thoroughly fed and taken care of, as one would take care of a favorite horse. In his first experience he had used ground without manuring, which had given a good crop of corn, but found it necessary to manure. He was not in favor of a rotation of crops, but would set ground apart for that especial purpose. He also reiterated that the sandy element should predominate in the soil where tobacco is grown. If too mucky the leaf is spongy and thick and of little value.

The question was asked whether the tobacco crop is as exhaustive as generally represented. A gentleman stated that on the flats near Ithaca, were farms where tobacco had been raised for twelve years without manuring, and still good crops were grown.

Mr. Robinson stated that in Florida the crop is raised for three successive years, and that the last year, the crop, although heavier, is far less valuable, not being of as good a flavor or quality.

Mr. Moses was asked the cost of cultivating tobacco. He desired Mr. Geddes to answer the query.

Mr. Geddes stated that from experiments made he had learned that it required about twice as much labor as any other. He thought that the best tobacco was produced east of New-York State, and that it is better here than further west. He thought tobacco could be cultivated with excellent success and profit if the land is not too high above the level of the canal. A good piece of land should be used and large buildings erected; and although requiring considerable cost to commence with, it would realize $100 per acre. He had known the very best of tobacco to be grown in Onondaga; and thought it could not be distinguished from the best of Cuba tobacco, and related incidents illustrating the statement. The crop is full as certain as corn. It grows with wonderful rapidity and is of rare beauty. It is cut by the 15th of August, and then the crop is grown. A curious fact in relation to the plant is that it grows sometimes a foot after being hung up to dry.

Mr. Robinson considered it the best crop a sheep farmer could raise, their manure being of great value in its cultivation.

Mr. Moses said that sheep are the only animals that seem to like the plant. He thought the plant did not exhaust the soils for grass and grains, but made it too strong. He knew one man who sowed rye in the fall, and plowed it in in the spring, and made it almost the sole manure. In this case, grain could be rotated. He considered the crop very profitable, and related his own experience, in which he had gradually extended his cultivation till he abandoned agriculture. It was more profitable than grain when he commenced raising it at five cents per pound. Mr. M. stated that highly-manured tobacco grounds were usually too strong for grain to follow as a rotative crop.

Mr. Hawley, of Onondaga, mentioned instances where a rotation of crops was practiced with success. He understood that it was conceded that one ton of tobacco consumed about 400 pounds of potash, but he had practiced rotation with success, raising 40 bushels of wheat to the acre after tobacco.

Mr. Harris, of the Genesee Farmer, considered that though a farm contiguous to a town where plenty of manure was available, might be profitably devoted to tobacco, yet it would not do to rely upon home manure in its cultivation. He asked Mr. Geddes to state his opinion.

Mr. Geddes explained that he considered if a man devoted a portion of his land to tobacco, he would raise more stock, and thus enrich his soil, provided he did not raise too much tobacco.

Mr. Moses believed that in time the science of manuring would be reduced to such a system that it would not be necessary to over manure land for tobacco, which is now apparently necessary

Mr. Robinson wished to impress in the minds of farmers that a small crop of tobacco would benefit a farm and remunerate its owner well.

Mr. Hildreth of Oneida, stated his *moral* views in relation to the raising of tobacco. He would not raise it more than he would raise the deadly Upas tree. He could not understand why agriculturists should advocate the cultivation of this plant.

Mr. Robinson thought the gentleman ought not to raise corn or rye for distilling purposes.

Mr. Geddes considered that the discussion of the question morally was out of order.

Mr. Harris inquired if the tobacco raised in New-York was not generally used for wrappers.

Mr. Moses said it was, and that a large portion of New-York tobacco was exported. He stated the peculiarities and differences of Connecticut and Cuban soils, the latter being of remarkable depth and richness, and so requiring less manure than our own lands.

THE THISTLE WORM.

Eds. Co. Gent.—Reading Dr. Fitch's description of the prickly thistle worms, on page 191, brings vividly to mind the appearance of these creatures in a field of mine this summer.

I had occasion to cross the field about the 15th of June, and my way lay through a large patch of thistles. Never having before seen a worm upon a thistle, I was truly astonished at beholding our enemy itself attacked by so formidable a destroyer as it then met. The black and prickly or *feathered* worm, as I should call it, appeared really frightful in numbers and ugliness, and I was forced to go around rather than encounter them by passing through them. Every thistle was covered, and for the most part, was then divested of leaves, nothing but the bare stalk with the purple bud at the top remaining. I resolved to send Dr. Fitch some specimens, but did not do it, and the matter passed out of my mind. Some three weeks thereafter (say July 8th) I had occasion to pass over the same ground. The worms had almost entirely disappeared, but there were hovering over the thistles innumerable butterflies of the appearance described by Dr. Fitch in the article referred to. I never saw so many butterflies together before. They were dark colored, spotted, and beautiful in appearance and of large size.

After the lapse of some weeks (say the middle of August) I again met my black friends in an adjoining field devoted to winter squashes. The worms were busy upon some thistles which were growing here and there among the vines, but they did not touch the vines, nor yet the buckwheat growing near by.

All this was witnessed about half a mile from my house on the opposite side of the canal; at my house only one or two of the insects have been noticed this summer, and they probably would not have been had I not seen the more numerous show of them above. Should they by any fortunate freak of nature destroy the Canada Thistle they would be entitled to a public ovation. But unfortunately Dr. Fitch leaves us but little hope on that score.

Utica, September, 1865, JOHN G. WEBB.

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Circumstances are the masters of a weak will and the ministers of a strong one.

NEWBURGH AND VICINITY.

The Newburgh Bay Horticultural Society held its autmnal exhibition for three days commencing on the 27th ult. Although the crop of fruit was very small, through that region, the collection on the tables was a fine one. As elsewhere there was a large show of native grapes. The Iona and Israella attracted much attention. Many bunches of the Iona measured from 6 to 7 inches in length, and were well shouldered. The only objection to this variety, and that is a slight one, is the want of sufficient compactness in the bunch We saw but few of the Rogers' Hybrids. His No. 4 appears to be highly esteemed, and very large and showy bunches were exhibited—the berries appear to be about as large as those of the Union Village, and much better in quality. Nos. 4, 19, 41 and 44 are all large, black grapes, and doubtlss when the best of these four is selected, it will be placed among those worthy of wide cultivation. Maxatawney does not appear to be of the highest quality, and was placed lower on the scale than the Rebecca, which was uniformly excellent. A new seedling was presented by S. Underhill of Croton Point, a cross of the Isabella and Delaware, apparently possessing much merit, and one of many which he has raised. The collection of pears, although moderate, contained many fine specimens. The exhibition of vegetables was fine and extensive.

A ride of several miles in the evening, to the residence of Samuel Heaton (well known as a mineralogist, and who has a large collection of minerals.) presented the picturesque beauty for which this country is so remarkable. At Charles Downing's, near Newburgh, we had an opportunity of seeing many of the new grapes in bearing. The Iona has grown and borne well, and is freer from mildew than many other sorts. The Israella has given much satisfaction. The compactness and fine appearance of the bunch and its early ripening, being quite as early as the Hartford Prolific, are likely to render this variety one of considerable value for marketing. The flavor is rather peculiar. Charles Downing thinks it very pleasant and agreeable, and would set out this variety largely for marketing. Allen's Hybrid has usually succeeded well with him, proved hardy, and he regards it as one of the finest flavored of all grapes. In common with most other sorts, it has mildewed considerably the present year. The Rebecca appears to grow and succeed better as the vines become older.

Many objects of interest were observed during a short visit to the residence of H. W. Sargent, about half a mile below Fishkill Landing, on the banks of the river. We have never seen any place where the fine effects of light and shade were so beautifull produced as were here effected by the groupings of native and introduced trees, combined with a fine lawn and selected vistas of the river and mountains. In the Italian garden there is a Fan Palm 18 years of age, a Date Palm over 60 years, and an American Agave upwards of 80 years. The latter is purposely kept from flowering, as this would end the life of the plant. In the more remote part of the grounds are dense plantations of the natural trees, with an undergrowth of Rhododendrons, and other introduced shrubs. In one place is a bending walk about 12 feet wide, lined on both sides with a dense screen of Arbor Vitæ trees, which are carried on a light frame archway overhead, and will soon entirely exclude the sky. Iron and wooden hurdles are considerably used to separate pasture from lawn. The whole place occupies 23 acres, and although less extensive and expensive than some others, is inferior to none for the skill evinced in its design. A few other fine residences adjoining, impart much beauty to the whole neighborhood.

An afternoon was devoted to a ride up Fishkill Mountain, about two or three miles from the Landing. Carriages may reach within a fourth of a mile and a few hundred feet of the summit, although a part of the road is made very rough by projecting rocks in the track, in some places as large as a barrel. The rest of the ascent is by means of a footpath, winding among rocks and a thick growth of chestnut, scrub-oak, whortleberries, &c., densely shading the walk on both sides, until a broad, rocky plateau presents itself as the summit. The view from the top is magnificent. At our feet are the villages of Fishkill Landing, Mattewan, and Fishkill, and, across the river, the the city of Newburgh, with the houses and streets mapped out beneath us. The whole breadth of the Hudson was visible for upwards of thirty miles, far beyond Hyde Park in the north. On its banks may be plainly seen Marlborough, Milton, and Poughkeepsie, and some other towns. Nearly the whole of Duchess county is visible, and seems like an ocean of farms beneath us. Mountains mark the horizon on nearly every side. To the south are the many peaks of the Highlands, in some places near at hand, their huge forms darkened with forests; others blue in the distance, and beyond them the plains of Westchester county. Faint distant hills are seen in Connecticut. On the west, the long well-defined range of the Shawangunk mountains, extends from New-Jersey to the neighborhood of Kingston; while faintly visible in the north. is the high, knotty outline of the Catskills. Three or four hours will accomplish the ascent and return, and the peak is well worthy of a visit.

J.

Oil for Harness.

A practical farmer says that the best oil for harness is one quart of neats-foot oil, four ounces of beef tallow and three tablespoonfulls of lamp-black. In summer add four ounces of beeswax.

MOCK TURTLE SOUP.

Messrs. Editors—Having seen the inquiry for a recipe for mock turtle soup, here is one that makes a very palatable as well as very fashionable soup:

Take calf's head, or any sort of fresh meat that you prefer, and boil until very tender. Every cook can decide about the quantity of soup the occasion requires. Keep a sufficient liquor on the meat while boiling. Fifteen minutes before the soup is done, take bread crumbs rubbed as fine as can be—break into the crumbs two eggs, then mix the crumbs and eggs well together; put into the crumbs summer savory well pulverized, salt and pepper, and rub the seasoning well together, and make into the so-called force meat balls the size of a black walnut, and drop these into the soup. This is all the thickening the soup requires. The soup is to be taken up in a large tureen, with the meat in the center of the dish, and the force meat balls to be placed around the meat, in order to make the dish appear nicely garnished.

Mrs. A. D.

Fruit Grower's Meeting at Rochester.

The autumn meeting of the Fruit-Growers' Society of Western New-York, held on the 21st, afforded a strong indication of the rapidly increasing interest in fruit culture. The attendance was nearly double the usual number; the collection of fruits, notwithstanding the small crop this year, was never surpassed—the exhibition of native grapes was the best we have seen. Four seedlings or crosses of the Delaware, from Ellwanger & Barry, give high promise of value, two of them being earlier than Hartford Prolific, and much better in quality. One of these four seedlings, known as No. 19, appeared to be a sort of especial excellence. These exhibitors presented 35 varieties of the grape in all, including the more rare or noted sorts. They also exhibited 150 sorts of the pear, of remarkably fine growth, and most of them of the best varieties. Frost & Co. of Rochester, and J. M. Clarke of Naples, also presented fine specimens of grapes. Moore Brothers of Rochester, showed six new hybrids, among others one of considerable promise from the Diana and Hamburgh, known as Diana Hamburgh. C. W. Seelye presented 10 sorts of the grape, including finely ripened specimens of the Maxatawney.

Mildew on the Grape.

The discussions opened with the subject of mildew of the grape—this malady, being so widely prevalent the present year, has excited a deep interest in grape growers. The prevailing opinion was, that young vines, kept well cultivated and pruned, and with the free admission of light and circulation of air, were much less affected than older vines more crowded in stem, root, and foliage. More remote planting than generally adopted, was recommended by some cultivators. Dr. Morse of Lockport, who had recently visited Kelly's Island, stated that mildew and rot had destroyed three-fourths of the grapes at that place the present year; the crop had not succeeded nearly so well as in Western New-York, nor had ripened so early. Several members had observed the grape less affected on heavy or strong soils—a few others had discovered no difference. L. B. Langworthy of Rochester, stated as an exception to most observations, that an old vine, on the east side of a tight board fence, shielded from circulating air, was less mildewed than younger vines freely exposed. Grapes near the surface of the earth were but little affected. I. Crane of Lockport, and some others, had found a sprinkling of sulphur over the vines and leaves, to arrest the mildew, but it needed occasional renewal as often as the disease appeared. Some regarded salt as useful, and others thought they had derived advantage from the application of ashes to the soil. No very satisfactory result or conclusion was agreed on, the malady being new to nearly all present—except in the prevailing opinion that air, light, and vigorous growth, were important.

Best Grapes for Shipping.

The best variety of grapes for packing and shipping engaged the attention of the meeting in the afternoon. I. Crane of Lockport gave negative information by naming the Concord as the poorest for shipping; cracking open of its own weight. Others had found that by drying them a day or two, and wilting very slightly, they carried well. The Isabella, Catawba and Hartford Prolific, was found to bear shipping without injury. Babcock of Lockport had found the Concord poor for transportation; the Delaware carried well to New-York and Chicago. Thick skinned grapes always carried best. Hartford Prolific had been found to ship well in all instances, if in small, or two or three pound boxes.

Most Promising of the New Grapes,

came next. President Barry thought the Crevelling one of the best black grapes—hardy, early, and hangs well on the vine. The chief objection mentioned by others was its loose bunch. Bronson of Geneva had observed it to be always free from leaf blight. Some had found it to become more showy and compact as the vine becomes older — some as handsome and compact as the Concord. Experience with the Iona was anxiously called for—but unfortunately few had fruited it, except on a small scale. Bronson of Geneva had seen it bearing and it had proved as early as Delaware. He stated that C. Downing had found it to ripen before the Delaware. Dr. Beadle of St. Catharines, Canada West, said that a neighbor had fruited the Adirondack two years—that it ripened with Hartford Prolific. H. E. Hooker had seen it bearing at Rochester—that it bore 50 bunches the third year from setting out—a very heavy crop. It ripened with Hartford Prolific. C. W. Seelye had seen it ripe in Albany on the 18th of August. I. Crane of Lockport, had found No. 15 Rogers' Hybrid a very fine grape—Nos. 4, 19, and 39 were also fine grapes, the three last were black, No. 15, red. H. E. Hooker thought well of No. 4 and 15; ripening when Isabella would not. The few who had seen the Israella thought it would become a fine market grape—handsome, early, productive, and ripening quite as early or before Hartford Prolific. I. Crane had fruited the Lydia, and highly esteemed it. C. W. Seelye exhibited bunches of well ripened Maxatawney; he had found it hardy and thought highly of it.

Distances for Vineyard Culture.

The drift of the discussion was in favor of allowing more room for vines than formerly. A member present who exhibited very fine specimens, set his plants 15 feet apart each way. He does not shorten the vines above the bunches, and allows a space of 18 inches between shoots.

A gentleman (whose name we did not hear,) said he had consulted the late N. Longworth, who strongly advised him to set 3 by 4 feet. He did so—setting out 25,000 vines at this distance. He soon found they were suffering from being crowded, and removed every alternate row, and every alternate plant in the row left. They did well for a time, but lately he has had to thin them again to ten or twelve feet.

On the subject of *side hills*, for vineyards, there were adverse views. Some preferred side hills, as more favorable to early ripening. Others had found a flat surface best, and yielding more grapes, probably on account of the increased facility for cultivation.

Pears for Market--Results of the Present Year.

Bartlett had borne most profusely, but was much knotty and stung by the curculio. Duchesse Angouleme had generally succeeded well, and was highly commended by many. Louise Bonne of Jersey had not always succeeded well. Flemish Beauty had cracked considerably, and even Seckel had been scabby. The Howell had been smooth and fair. L. A.

Ward of Rochester, who had grown pears largely, said the Sheldon had been finer than ever before—he held up smooth specimens over three inches in diameter. They were always best on standards. The Diel had also succeeded uncommonly well; (with others it had cracked.) Anjou had proved fair and fine. With others, the Bosc had been excellent. The Virgalieu had cracked everywhere. A member stated that the knotty surface of Bartletts and other pears, was caused by small ants injuring the surface when the fruit was about the size of peas.

Black Fungus on the Pear.

The Virgalieu had generally failed from this cause. With a few it had succeeded well. The Flemish Beauty had been somewhat affected, and the Seckel to some degree. These were all the sorts named as being liable.

Most Profitable Apples for Market this Year.

The Rhode-Island, Baldwin, Roxbury Russet, and Twenty-Ounce, were mentioned as most uniformly productive the present year. E. Moody of Lockport, said a neighbor had three trees of the Baldwin that are now bearing at least ten bushels each, and that he had been offered five dollars a barrel for the whole—making $150 for the three trees,—tolerably profitable.

Before the close of the session the subject of the profits of fruit culture having been introduced, several instances of high profits were mentioned where the small fruits had received the best culture; among the rest, the strawberry plantation of J. Knox of Pittsburgh, was cited as an instance where over $12,000 was cleared from a single plantation last year. L. A. Ward said he had been much interested in hearing several statements in the meeting, among which one gentleman had stated that he had in one case cleared $900 in a year from an acre of grapes, and $1,200 in another case; yet he was so dissatisfied with this result, that he was about to make an important improvement to increase it. But even this was thrown in the shade by a gentleman (Moody of Lockport,) who had just shown that each Baldwin tree yielded this year fifty dollars each. If this was so, would it not be better to leave oil wells, gold mines, and even Western Union Telegraph companies, and go to raising fruit?

The President, in alluding to the failure in pear and other orchards, said he had examined a large number of orchards of dwarf and other pears, that had been most largely injured by fire-blight, and in every instance there were more than enough left to yield more from an acre than any other portion of their farms. And not one apple orchard in twenty, all through the country, now receives not even moderate attention; and until orchardists generally learn to give better culture, high profits cannot be expected.

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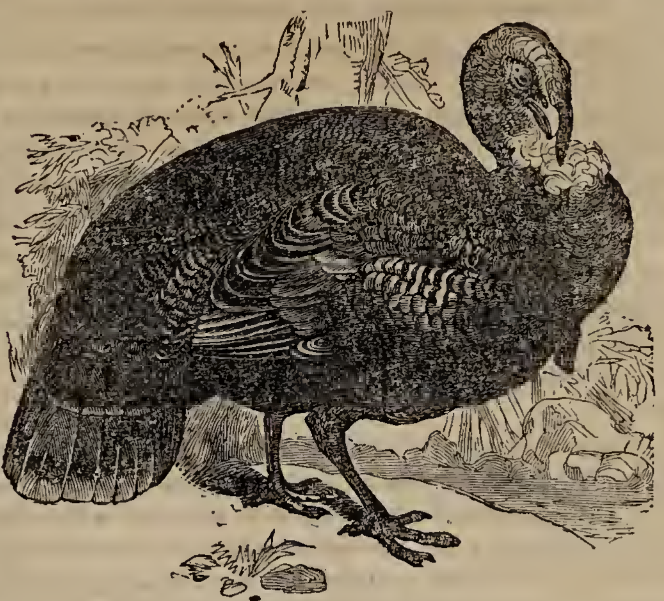
THE BRONZE TURKEY.

The domestic turkey can scarcely be said to be divided, like the common fowl, into distinct breeds, although there is considerable variation in color as well as in size; but no dwarf race exists, unless we except the small delicate-fleshed turkeys of Hempstead Plains, Long-Island, which are said to weigh, when dressed, not more than four or five pounds.

Richardson says "there is a question whether the domestic turkey is actually a second or distinct species, or merely a variety of the wild bird, owing to the diversity of its aspect to circumstances dependent on locality and consequent change of habits, combined with difference of climate and other important crosses, which we know in the case of other animals produce such remarkable effects."



THE BRONZE TURKEY.

Buffon and others assert that "there is but one species of the turkey;" in this country we have several varieties, known by their color, viz., the black, the bronze, the pied, the slate, the ashy gray, the white and the copper color.

The ashy gray and copper color are not particularly remarkable, but the black and bronze are decidedly superior in every respect, not only as regards greater hardiness and consequent greater facility of rearing, but as acquiring flesh more rapidly, and that being of the very best and primest quality. Those of this color, particularly the bronze, appear to be less far removed than the others from the original wild stock.* Fortunately, too, the black and bronze seem to be the favorite color of nature, and they are produced far more abundantly than those of any other hue.

As to the relative value of the ordinary varieties, it would be almost difficulty to offer an opinion; but those who suppose the white turkey to be the most robust and most easily fattened are decidedly mistaken, both in theory, as far as analogy may guide us, and in practice, where the certain test of experience has shown to the contrary. The pied and copper-colored varieties are generally undersized, and are among the most difficult of all to rear; but their flesh is certainly very delicate, and perhaps more so than that of any other kind—a circumstance, however, that may partly result from their far greater delicacy of constitution, and the consequent extra trouble devoted to their management. The finest and strongest birds are those of a bronze-black, resembling, as closely as possible, the original wild stock. These are not only reared the most easily, but are generally the largest and fatten the most rapidly. Some turkeys are of a coppery-tint, some are of a delicate fawn-color, others are pied or parti-colored, gray and white, and some few of a pure snow-white. All the latter are regarded as inferior to the black and bronze, their color indicating something like degeneracy of constitution, if not actual disease.

C. N. Bement.

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* A few years ago. Rev. R. H. Avery, of Wampsville, N. Y., exhibited a cross of the wild and tame turkey, beyond competition; the largest weighed 33 pounds, and several others 30 pounds each. Their plumage almost vied with the peacock in brilliancy. These are supposed to be the origin of the now famous bronze turkeys; and such turkeys would ornament the palace of Queen Victoria.

FRUIT DISCUSSION AT FORT WAYNE.

We are enabled to give to our readers a brief report of some of the interesting discussions at the evening meetings held during the recent State Fair at Fort Wayne, Indiana. After some opening general remarks by Dr. Warder of Cincinnati, the first evening was chiefly occupied with the subject of the diseases of the grape, with a view to adopt a list of such as were most generally found to be healthy. Among those who took part in the discussions were J. Knox of Pittsburgh; Sanford Howard of Michigan; Thomas Meehan of Philadelphia; W. Heaver and Dr. Warder of Cincinnati, J. W. Bailey of Plattsburgh, and others.

J. Knox looked upon the Concord as the most hardy and healthy of any valuable sort. He had found it not only to withstand the mildew of the leaf, which the present season has proved so injurious to native grapes throughout the country, but the thrips, which is becoming so common and destructive, makes no impression upon it. He also named Herbemont, Norton's Virginia and Creveling, as being very healthy sorts. He protects the Herbemont in winter, but regards it as one of the best varieties cultivated, and not receiving the attention its merits warrant. He exhibited beautiful bunches of this variety at the Fair grounds, being large, shouldered, compact, and measuring six to seven inches in length.

J. W. Bailey of Plattsburgh, had found the Adirondac to exceed all others in healthy growth. The Concord had mildewed.

Thomas Meehan of Philadelphia, on being called upon for his experience with the Rebecca, stated that it had been thrown out by most cultivators, although the delicious quality of the fruit was admitted. The Maxatawney, which it somewhat resembles, proves to be a much better grower.

W. Heaver of Cincinnati, strongly recommended the Delaware. He had not found the Concord so valuable as it appeared to have been in other places.

Mortier of the same place, also highly commended the Delaware, but intended to plant the Concord for wine.

J. Knox had raised a new variety originated by S. Miller, and known as the Martha. He stated that it has all the vigor and hardiness of the Concord, with a white berry and better flavor.

Dr. Warder said that he had recently acted on the committee for the award of the Greeley prize—but they had failed to find a variety that had met all the requisitions. The quality or flavor of the Concord was regarded by some of the committee as too low. The Iona and Adirondac could not meet another requisition of general proved adaptedness, having been fruited as yet to a very limited extent.

It appeared from the discussions generally, that no variety had given more general satisfaction throughout the West, than the Concord. From the specimens exhibited of this sort, it evidently aquires a better flavor than those ripened at the East, yet higher quality is still desirable. Scarcely an instance was reported of its being affected with the mildew throughout this region, while at the East it has been more or less injured. Among other sorts that were named as generally healthy, were Hartford Prolific, Venango, Ives' Seedling, Norton and Creveling. Other well known sorts were more or less affected with mildew or disease.

The second evening was devoted to the discussion of apples. I. D. G. Nelson, (President of the Indiana Horticultural Society, and who presided at the meetings,) said that the apple crop in Northern Indiana had been medium in amount, and as prices had been very high, owing to scarcity elsewhere, orchardists had reaped large profits. The common price was one dollar per bushel on the tree. He had shipped the crop of his large orchards to New-York city. The best varieties being called for, the Ben Davis was named as one of the most valuable for the regions of the West—being always healthy, bearing uniformly, and being a handsome fine apple, it has been found eminently profitable. Like Rawles' Janet it is not adapted to the North, where the seasons are too short for its full development. The King of Tompkins County had been cultivated to a considerable extent, but generally ripened too early for winter keeping. It had in fact become an autumn variety. Some had found it nevertheless, to keep well into winter. The Wagener was highly spoken of, proving an early bearer, excellent in quality, and a good keeper. In the southern part of the State it keeps till mid-winter. President Nelson stated that he had found the Ben Davis, Belmont and Wagener, the three most profitable sorts. He planted most largely of the first named. The White Pippin, although not of very high quality, was named by several present as a good market variety. The Winesap has proved liable to rot at the core. It is too small in size, and has too many poor specimens. Smith's Cider, although deficient in fine flavor, is another sort that sells well in market. The tree proves quite hardy. The experience of culivators present was called for in relation to the Benoni—a diversity of opinion was expressed, some esteeming it highly, both for its handsome growth and excellent quality, while others regard it as too small in size. The Duchess of Oldenburgh, in the Northern part of the State, had been found one of the most valuable summer apples for market. Williams' Favorite had proved excellent with some. Early Harvest had lately become nearly useless, from black spots or scabs, but none had been found early enough to take its place—Red Astrachan, Trenton Early, and Kirkbridge White immediately succeeding it. The High-top Sweeting was generally regarded as the best early sweet apple.

The very general injury of the crop at the East by the apple-worm having been alluded to, information was called for as to its first appearance in the West. A cultivator on the Wabash river said he had seen it 20 years ago, but of late it had become more abundant and injurious. It was generally admitted that an effort must be made to check its increase, and nothing for this purpose appeared to promise better than the introduction into orchards of sheep and swine to pick up the infested fruit. A gentleman present said that he had adopted this mode to the great improvement of his crop. A member stated that by washing the bark with strong tobacco water, sheep would not touch it—thus showing at least their refined taste. Sanford Howard had known the application of fresh cattle manure, with the addition of water, applied with a coarse brush, to prevent the attacks of sheep on the bark. There is much less danger in summer than in winter, and after the bark becomes rough, as on old trees, they do not touch it.

Inquiry was made for the best remedy against rabbits. Dr. Warder remarked that in the Western States, where corn was so cheap that it had been used as fuel, a good way had been to scatter it along nursery rows, where rabbits would feed on it, and leave the more valuable trees. Large trees might be protected by simply tying a sheet of paper (newspaper ?) around the foot of the trunk ; but a still easier mode was mentioned by several cultivators. It was to apply blood to the bark ; rubbing a piece of liver from the butcher's, was found amply sufficient, the rabbits refusing to touch the bark while the least taint of blood remained, even after being thoroughly washed by rains.

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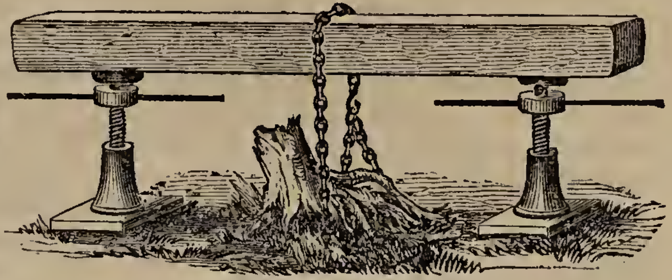
LABORERS' COTTAGES.

In each of the three published volumes of Rural Affairs we have given designs for laborers' cottages to be erected on farms for the occupancy of the hired men. After many years' trial we have found this mode of obtaining hired labor better in nearly every respect than hiring men and boarding them in the family. The occupant of the cottage has a wife who can do the work of preparing meals for him at very little cost, and for this reason we have always found that such men could board themselves at much less expense than their board could be hired elsewhere, or could be afforded in the farmer's family, where an increase of hired domestics becomes indispensable. Since the publication of those articles we have been gratified to learn that a large number of land-owners, who occupy their own farms, have adopted this mode for procuring the necessary force to work them. They thus procure steady men who are willing to continue for years in their employers' service ; and the farmers themselves and their families are relieved from the constant burden of boarding, lodging, and affording room for a number of hired men. They will find another advantage. Farmers' daughters who are growing up will be less induced to marry lawyers or clergymen or doctors or merchants or village mechanics, for the sake of getting rid of this constant drudgery, and of finding a residence where they can enjoy at least some degree of privacy.

But in recommending this plan or system it must be borne in mind that it should be properly carried out in practice. Some, instead of building neat and comfortable houses, have furnished shabby or half-decayed buildings, or shanties, for their hired men—and then complain that the system does not work well—that they are not able to get the smart, active young men which may be had by giving them a seat at their own tables and the occupancy of their parlors. If a farmer wishes a man who is lazy and good-for-nothing, he will certainly be very successful in finding him if he has a comfortless and shabby-looking dwelling for him. On the other hand, handsome cottages, comfortable within and without, surrounded with shrubbery and having a small and good garden, will bring the right kind of men without any difficulty. This we know by ample experience.



A CHEAP STUMP PULLER.

Eds. Co. Gent.—On page 144 current vol. are some inquiries about stump machines. I cannot answer all the questions, but I can describe *my* stump puller, which answers very well for me, and does not cost much.

I bought two screw jacks, and I had a stout log chain. These jacks have 1½ feet lift, working in cast-iron pedestals. I procured a stout beam, 8 feet long, and about as heavy as two men would want to carry, and two pieces of plank for the jacks to stand on, together with some blocks, &c., and all was ready. I place the beam across the largest and stoutest root of the stump, one jack on each side, and as near the stump as I think the roots will allow, and resting on a piece of plank. The chain is passed around the root and the beam. One man at each jack will raise almost any stump to the full lift of the screw, which, in a majority of cases is sufficient ; if not, place a stud under each end of the beam ; let down the jacks, and placing blocks under them, give the stump another lift. Two men will pull from thirty to fifty stumps a day, and the machine will cost fifteen or twenty dollars, while the jacks are useful for many purposes besides pulling stumps. There is no *patent* on this puller. H. M. Rogers. *Kenosha, Wis.*

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MANAGEMENT OF PASTURE LANDS.

I have been much interested in the discussion of this subject at our last State Fair. Although not a Dairy Farmer, the question is none the less interesting to me. On our well drained grain soils, experience and observation has taught me that our land should not lie in grass to exceed three years, unless seeded *heavily* to timothy. When seeded down in the usual way to timothy and clover, or clover alone, the clover soon dies out, and its place is usually supplied by June grass or something worse ; and when that gets well rooted in the soil, no *ordinary* summer fallow will exterminate it. Besides, instead of giving the land a rest, it actually impoverishes it more than a grain crop. When land is hopelessly wet, hilly, and unadapted to the raising of grain, I have no doubt that it would be best to keep it permanently in grass, provided it could be made to grow. But what stock like best, is *fresh* feed, and that can only be obtained by frequent *change* of pasture.

The grain-growing farmers of Western New-York believe in *systematic rotation*, believing that no other course is so likely to keep up the fertility of the soil, and clear it of foul weeds and grasses ; and leaving to such as prefer them, the cultivation of "Meadow, Foxtail, and Quack grass," we are satisfied to eat the butter and cheese, and drink the milk produced from good clover and timothy. P. P. B.

ROTATION OF CROPS---IV.

Culture of Tobacco.

Varieties.—There are a large number of varieties, each having some one or more qualities for which it is cultivated. A kind which combines all of the most desirable qualities is preferable to those which have only one or two. The "Conn. Seed Leaf" is found to combine more desirable qualities than any other variety cultivated, hence I make its culture the subject of the following lines.

Seed.—Let a desirable number of the earliest and best plants go without topping, breaking off all branches below where the leaves are three inches broad; when the crop is harvested, strip the leaves from these and tie the stalk to a stake; cover them over when likely to freeze. When the capsules have turned a deep brown, the seed is ripe; cut the top off with a foot or two of the stalk, and hang away to dry where it will not be disturbed; when wanted for use, select the best and most central seed-pods, rub them out with the hands, and screen through a fine sieve.

Seed-Bed.—A warm sheltered location, good rich sandy loam, free from weeds or easily kept so, is the best. Plow or spade in the fall 10 or 12 inches deep, cover with tobacco stalks; as soon in spring as the frost is out and dry enough to work, clear, and plow with very narrow furrow-slice four or five inches deep, strewing guano or hen manure in the furrows as turned, liberally. Harrow, rake, and make the surface smooth, and the soil exceedingly fine; work in at the same time one bushel poudrette to the square rod. Sow broadcast one tablespoonful seed after mixing with sand; roll with a good field roller, and cover some brush over the bed, to remain till the plants attain the size of a three-cent piece. Keep the bed entirely free from weeds; the beds may be 10 to 12 feet wide, and a plank stretched across the bed, with blocks under the ends, will enable you to weed any part conveniently.

Manure and Application.—Stable and yard manure are to be mainly relied upon, aided by composting with peat, muck, etc. Tobacco grows quick, and needs large quantities of fertilizing material to feed on; twenty to twenty-five cords to the acre, well fined, spread and plowed under six or seven inches deep as early in spring as the ground will work well, will tell on this and future crops. When weeds start, harrow to destroy them and fine the soil; plow again about a week before transplanting, this time one or two inches deeper than at first; harrow and make level, going two or three times over; lay off the rows three feet ten inches apart by a marker; with the coverer follow the marks, hauling the soil into light ridges; mark the hills two feet apart with a light wheel arranged with shaft and handle to carry by hand, with blocks fastened on the outside rim two feet apart; hole out and drop in guano and plaster mixed, at the rate of 150 pounds of the former to 250 of the latter to the acre; cover two or three inches with fine soil and spat, leaving the spat a little depressed.

Transplanting.—It is essential to get the plants set as early as possible; from the 1st to the 15th of June is best. A moist or wet time is best for transplanting, but by watering the ground and the plants after setting, it may be successfully done even in a dry time, if done thoroughly. Good sized strong plants grow more readily than weaker ones. One who can set cabbage or lettuce plants can set tobacco, using care in pressing the soil up to the roots, and not pinching or covering the buds; set them as near as they stood in the bed, leaving the soil a little dishing around them.

Cultivation.—As soon as the plants take root begin to use the cultivator and hoe. Stir the ground slightly close to the plant at first; afterwards more thoroughly; let the cultivation be repeated as often as once in ten days, till the tobacco gets too large to go with the cultivator and horse; keep the weeds down with the hoe, and stir the soil as much as possible without injury to the plants.

Worms.—The cut worm takes the young plant soon after it is set, eating out the leaf-bud or the entire plant; hunt him out and kill him, and replace any missing plants. The green worm attacks the plants when the leaves get the size of a man's hand, some seasons, and continues till the crop is harvested unless picked off and destroyed. The eggs which produce the worm are laid, one in a place, on the under side of the leaf by a gray miller as large as a humming bird with orange colored spots on its body; for a drawing and full description of this, as well as of the worm in its various stages, see Dr. Harris' book on Insects.

Topping.—To throw the growth of the plant into that portion of the leaves which will give the best returns in profit, etc., the plants need topping; just where is a point demanding good judgment, and what is of importance, experience. The nearest we can come at it on paper is to say, top to where the leaves are about six inches wide when the plant has run up to blossom, leaving the plant about 2½ feet high.

Succoring.—Succors or branches push out from the axils of the leaves as soon as the top is broken off; these should be kept broken off to let the strength go into the leaves; the last succoring is done immediately previous to cutting.

Harvesting.—Tobacco should be cut as soon as ripe, which is known by a spotted appearance of the leaves; they also assume a harsh and brittle appearance and are easily broken when folded. A hay knife or backed saw is the best to cut with; lean the plant a little and cut underneath the leaves close to the ground; lay in regular rows to wilt so that it may be handled without breaking; then haul to the barn on a platform wagon. It should be looked to not to let it sunburn; five minutes in a clear hot sun will sometimes injure it irreparably. Turn and cart it under cover or shade when in danger.

Buildings.—These are built in size according to the quantity raised. The posts should be 15 feet long to hang three full tier, and a part tier on the purlin beams; ventilate in the roof, and by hanging every other board of the siding on hinges.

Hanging.—Twining on poles is the most expeditious; other ways are pegging, spearing and hanging on laths; procure sawed or rived laths from straight grained timber; taper them at one end to fit an iron socket which is pointed at the other end; the socket end is made to fit a lath ½x1½ inches. The laths are four feet long; scantling are arranged in the building four feet apart from centers for the lath to rest on after being filled. A 1½ inch hole, bored a little slanting 3½ fect from the foot of a barn post, will serve to hold the lath while being filled. Take a plant in the right hand by the butt and the left clasping it about a foot down, place the stalk against the spear, and with a sudden push shove it on to the lath; four or five good sized plants will fill a lath; spear the load and then raise them into place; the upper tier can be hauled up with falls several laths at a time; put them far enough apart to give a good circulation of air.

Stripping.—When the juice is dried out from the leaf stem, it is cured and ready to strip. Watch a mild, moist time, and open the buildings to let the tobacco dampen; when sufficiently damp to handle without breaking, take it down and bulk it, butts out and tips in; cover it to prevent drying out. Strip one leaf at a time and make it into hanks of about one-third of a pound each, tie up neatly with a single leaf band, winding it close to the butt and tuck the end of the leaf into the hank. The tobacco is made into different sorts according to quality; very perfect is made into only two sorts; lugs and wrappers, less perfect three, first ground leaves, second imperfect, third and best for wrappers the perfect; each sort is neatly tied up and kept separate. Bulk and press it down as fast as stripped, in some suitable place to prevent drying out; here it can remain if protected from dampness or vermin till sold to the speculator, unless you desire to market it yourself, when it is pressed into cases 2½ feet square and 3½ feet long inside measure; such cases will hold 375 pounds, by packing it in, butts to the ends of the case, and pressing with a lever or press for the purpose. A mild or moist time when the tobocco is pliable, is the time for casing.

South Windsor, Conn. WM. H. WHITE.

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THE HOP APHIS---REMEDY PROPOSED.

Messrs. Editors—I notice in your issue of Sept. 7, a short article from a correspondent, stating that buckwheat sown in hop-yards had proved a preventive for the ravages of the aphis. I am sorry to say that the same means have been tried in this section without success, and reasoning *a priori*, I think that the proposed plan would aggravate instead of cure the evil.

A late communication to your paper from Dr. Fitch, mentions that in England the "plant louse" passes the winter on a species of wild plum; but few or no trees of this kind are found here, and there seems to be good reason to suppose that the vermin need no special nutriment to keep them through the winter. Thus, for instance, I have been told by hop-growers that they have found them alive under the bark of the poles in the spring, and it is well known that they are generally the most destructive at the edges of the yard, which leads to the inference that they have taken shelter in the surrounding stubble since the preceding autumn. Reasoning from these facts, I would favor a course exactly the opposite of that proposed by your correspondent, and would suggest a plan which I think would prove at least a partial remedy, bearing in mind, however, that in a matter so little understood, an opinion formed on the observation of one year may be completely changed by the experience of the next.

In the first place I would collect after picking, all he weeds, grass, &c., left in the yard, and burn them with the vines, thus clearing the yard of refuse. I would then place the poles upon suitable frames so that they would lie about two feet from the ground, and kindle a slow fire underneath them (taking care not to burn them,) until they were heated so as to kill the vermin lodged in the crevices of the poles. A strip of ground around the yard, 15 or 20 feet wide, should then be cleared of weeds and stubble, burned over if possible, and deeply plowed. This, it would seem, would exterminate the insects so that none would appear the succeeding year unless coming in the winged state from other yards.

This is the most obvious way of attacking the pest, and although I have never heard of its being tried, it may perhaps have been tested in some hop-growing country where the vermin have been longer known than here, and if any of your readers are familiar with the experience of growers in England or Germany they should make it known. There is no subject of greater practical importance to a large section of country than this, and an interchange of views and suggestions, alike from theorists and practical cultivators, can hardly fail to tend toward a beneficial result.

Maryland, Otsego Co., N. Y. JAMES A. WHITNEY.

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Fleas on Dogs---How to Exterminate them.

In the Co. Gent. of the 14th inst. a correspondent asks for a remedy for fleas on dogs, and is referred to a recipe from the London Field, viz., a mixture of tar, lard and sulphur, well rubbed into the dog's coat. This may do but I think the remedy worse than the disease, I should certainly consider any one exceedingly verdant to apply tar to his dog's coat; grease is bad enough surely, but if that is to be used at all, let the dog be thoroughly rubbed in every part with common kerosene oil. I have known this to be used with perfect success. By keeping the dog chained a day or two, the unpleasant odor and effect of the oil disappears. But I consider the following remedy far superior to grease, tar or sulphur in any form. I have tried it myself and seen it tried repeatedly with uniform success.

Take ordinary soft soap, made in the old fashioned way from wood ashes, rub the dog thoroughly with it, first wetting his coat completely. Let the soap remain, say 10 minutes—wash him clean, and the fleas will have vanished—not left to return again, but have been killed "as dead as a mackerel." Their dead bodies will begin to appear almost immediately after the application of the soap. Doubtless a weak solution of potash would answer the same purpose, but always having the soap at hand, I have used that only. The soap and water not only eradicate the fleas, but perfectly cleanse the dog's skin and coat, and is calculated to improve his condition and appearance generally.

Newton, N. J. POINTER.

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EXTERMINATION OF HORSERADISH.

Messrs. Editors—In the Co. Gent. of July 20th we learn that "Cocklearia" of Chicago, has failed in his method of eradicating horseradish from his garden, and in his "extremity" he appeals for aid. I am happy to inform Cochlearia that we once effectually destroyed horseradish in our garden by trenching the earth about two feet deep, and forking out every root and fibre. I know others who have adopted this mode with entire success. If thoroughly applied this is the most effectual and economical method of extermination that I know, notwithstanding that horseradish as well as rye grass may be effectually eradicated or destroyed by the slow and tedious process of cultivating the ground cleanly in growing root crops or cabbages, &c., as commended by some persons.

Chicago, Aug. 18, 1865. ISAAC T. WHITBECK.

BUTTER FACTORIES.

A correspondent, writing from New Berlin, asks us how a butter factory for 200 cows should be constructed? Whether butter of good quality can be obtained from churning new milk? Whether the night's milk can be kept in cans and then churned in the morning with good results? What kind of churn is best? &c. &c.

We are acquainted with no factory receiving the milk of 200 cows, devoted exclusively to butter-making.

One of the chief requisites to a factory of this kind is good water and a spring-house.

It is of the utmost importance that everything about the premises be kept sweet and clean and free from anything that would be likely to affect the milk or butter with taints.

Opinions of good butter-makers differ in regard to the manner of obtaining the most as well as the best character of butter from a given quantity of milk. In a recent conversation with a butter-maker of large experience—and one who has for years operated in the trade, purchasing for the New-York markets—it was urged by him that the largest amount, as well as the best quality of butter is obtained by setting the milk in tall pails in the spring-house until it soured and begun to thicken—then churn milk and cream together.

The more general practice is to set the milk shallow in pans, skim off the cream and churn, feeding the sour milk to the pigs. We could write a long essay on butter-making, but that perhaps would not give the kind of information desired by our correspondent.

If the erection of a factory, receiving the milk from 200 cows, was contemplated for butter-making, it is a question whether the system adopted in Orange county would not be preferable.

Factories are established there in which both butter and cheese are manufactured. The buildings are constructed similar to factories for making cheese in Herkimer and Oneida, with the addition of a spring room and cellar, or room suitable for churning and working the butter. In the spring room the water is flowed into large tanks or vats. The milk, when received, is put into long tin coolers eight inches in diameter, and in height equal to that of the water in the vats, which may be from 14 to 18 inches. The milk of a day is allowed to stand in the water until the next morning, when it is taken out, the cream skimmed off, and returned to the same vessels and set in the water to sour, preparatory to churning. The skim-milk is placed in the milk vats and made into cheese. Good butter is manufactured by churning the cream either sweet or sour.

Mr. SLAUGHTER, who has a factory of this kind in Orange county, informs us that he has no trouble in making first quality of butter in this way, though he thinks a little better flavored butter is obtained when the cream is churned sweet. He says he has repeatedly made his own winter butter at the factory, and found no difficulty in keeping it over till June, sweet and good, a firm article, both from cream churned sour and sweet. The churns used at the factories are the common one-and-a-half barrel dash churns—and we may remark here that, notwithstanding a great many ingenious devices have been constructed for churning, the old dash churn seems to still hold its place as among the best, with butter manufacturers.

The skim-milk cheese from the Orange county factories are shipped to the West Indies and to warm climates, and command in the market a price nearly equal to the factory cheese of Oneida and Herkimer. Indeed the quotations are sometimes higher. Mr. SLAUGHTER writes us that the shipments of skim cheese for the week preceding Oct. 11, brought 18½c. per pound, while choice factory cheese at the Little Falls market at that time averaged no more than 17½ to 18 cents.

The main difference in the manufacture of the cheese from skim milk and pure milk, is that less heat and more salt is required for the skim cheese.

Mr. Slaughter furnishes us with the following statement of receipts and expenditures of his factory for eight months of last year, commencing with Agril 1st, as follows:

Quantity of milk from 380 cows for eight months—593,137 quarts, wine measure. From this was manufactured

73,100 pounds of cheese, which sold for,		$13,383.07
31,185 do. butter,		14,554.58
17,549 quarts of milk sold,		1,074 09
2,240 do. cream sold,		516.40
Sundries,		40.06
Hogs,		1,646.83
Total,		$31,215.03
EXPENDITURE.		
For labor,	$1,195.00	
Materials used,	1,285.81	
Cost of hogs and grain fed,	719.43	
		$3,200.24
Making a nett profit of,		$28,014.79

From the above we arrive at the following: That the average number of quarts of milk per day from each cow for the eight months was about 6½, giving a nett profit of a little over 5 cents per quart, or in the neighborhood of $74 per cow.

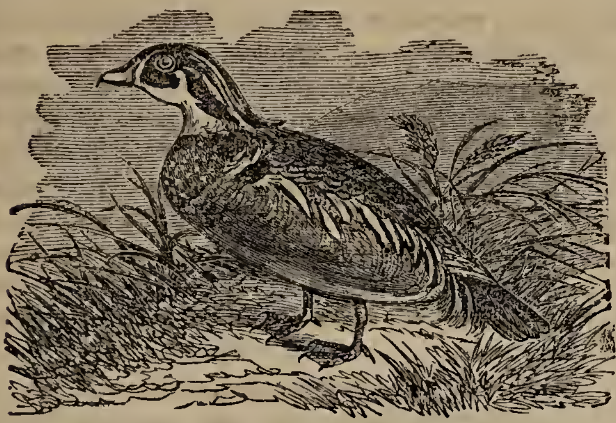
It will be observed that the average quantity of milk daily received per cow is quite small. Doubtless only a portion of the milk from the several dairies was sent to the factory.

We have given all the facts and figures, to show that when there is comparatively but a small number of cows, butter factories may be established under this system with a reasonable expectation of large profits.

The manufacture of cheese in factories has now become so widely extended as to make butter scarce and high—at least butter of prime quality—and the introduction of a few butter factories in every county would be a great convenience, not only to the people at large but to dairymen. Many of our cheese dairymen depend on purchasing their butter, and are very much troubled at times in getting a supply. If they could go to a factory and obtain a prime quality at any time as wanted, they would regard it as a decided convenience.

Again, when butter-making is made a business, as at a factory of this description, skill and perfection of work would be sought, and we should have less of the miserable rancid grease so frequently sold under the *name* of butter. The facts presented here are worthy, it is believed, of careful consideration by our dairymen. We have no space to treat the matter farther now, but may refer to the subject again hereafter.

X. A. W.



Wood or Summer Duck---*Aix sponsa.* Boie.

This is perhaps the handsomest duck in the world—not even excepting the famous Mandarin Duck of China. For brilliancy of coloring and exquisiteness of form it cannot be surpassed. It is called the "Wood Duck," from the fact of its breeding in trees, and the "Summer Duck" because it remains with us chiefly during the summer. It is to be found rarely on the seashore—preferring the ponds, creeks and woods of the interior.

The Wood Duck ranges over the whole of the continent of North America and appears to be very equally distributed. Cases are on record of it spending the winter as far north as Massachusetts, but as a general rule those that breed in such high latitudes move southward at the approach of winter.

The Summer Duck has been frequently domesticated and will breed while in that state. Instances of this are given by Latham, Wilson, Audubon and Nuttall. In fact we wonder that there are not more of them domesticated than there are, as it is a matter of no difficulty, and they would make beautiful ornaments for a country seat. They would take the place of the Peacock and the horrid Peahen or Guineahen, whose only delight seems to be to make a most unearthly noise at all times and in all places. Had we our own way we would cause all of the latter named pests to be exterminated.

The Wood Duck breeds from the first of April to the first of June, according to the latitude of the place it selects. In the Middle States the 12th to the 18th of May is the usual time. They invariably breed in the holes of trees, and Audubon observes that he has never known "one of these birds to form a nest on the ground, or on the branches of trees." They select a hollow in a broken portion of some large branch. They have been known to build in the deserted hole of a squirrel or the abandoned nest of the Ivory-billed Woodpecker, *Camphilus (principalis* of Gray.) Audubon says: "Once only I found a nest (with ten eggs) in the fissure of a rock on the Kentucky river, a few miles below Frankfort. Generally, however, the holes to which they betake themselves are either over deep swamps, above canebrakes, or on broken branches of high sycamores, seldom more than 40 or 50 feet from the water."

They make their nest of a large quantity of feathers, many of which are taken from the breast of the female bird. Upon this soft receptacle she deposits from ten to fifteen eggs. We are unable to describe them ourselves as they are not in our cabinet, but we will give Audubon's description: "They are perfectly smooth, nearly elliptical, of a light color, between buff and pale green, two inches in length by one and a half in diameter; the shell is about equal in firmness to that of the Mallard's egg, and quite as smooth."

It is a characteristic of all duck's eggs that they are very smooth and hard shelled. They all have a glossy polish and can be written on without difficulty.

As soon as the female has laid her complement of eggs the male very ungallantly leaves her by herself to hatch them. His presence does not cheer her during her arduous duties of incubation. He in company with many other males form themselves into a large flock and remain apart from their mates until the young are able to fly, when both sexes re unite and remain together until the next breeding season. We are at a loss how to account for this behavior in the male, and can only suppose that it is done because he is unwilling to share the trouble incurred in the increase of a family.

If the nest be immediately over the water, the young birds flutter out of their nest and drop into their native element. When, however, it is some distance from it, the mother carries them to it, one by one, by means of her bill.

The young birds follow their parent along the grasses and shallow shores of creeks, ponds, &c. It is very amusing to watch them. Now one of the little fellows sees an insect floating on the water and darts out after it. Another suddenly makes a dive after some tender root of a weed which is growing under water. All kinds of insects and a variety of kinds of seeds form their food. They are excellent divers and disappear on the slightest alarm. They walk better on the ground than any of their tribe.

At last the young birds are able to fly a considerable distance. Now there occurs a grand re-union of the sexes, and here the father sees for the first time his sons and daughters! Oh! that some of our little birds could set them a lesson as to parental duty!

[A. O.] J. P. NORRIS.

HISTORY OF THE CREVELING GRAPE.

L. Tucker & Son—The Creveling grape has been known here for forty years, and is believed to be a seedling of the Fox. It was first known as a single vine growing near the house of a family named Wartman, near Bloomsburg. A slip was taken from it and cultivated by a man named Creveling. After his death, perhaps 25 years since, his widow removed to the village, and took with her a shoot of her favorite vine. It thus became known here, and plants were gradually distributed to neighboring towns. About 1860 it became known for the first time abroad, and now ranks among grapes of the first quality.

Its merits are, quality, earliness, size, persistence upon stem, productiveness, and capacity for keeping. The vine is tolerably hardy, of fair growth, and little liable to mildew.

In careless cultivation the bunches do not always set well, and it is found advantageous to plant the vines along with Concords. The pollen of the latter is supposed to impregnate the Creveling, and increase its fruitfulness. The *form* of the Creveling bunches, large and irregular, admits the sun and air freely to every berry, and they ripen very evenly and completely.

The name is correctly written with but one *l*, and it would be well for you to make your advertisements correct in this respect, until the spelling shall be fixed.

Bloomsburg, Pa., *Oct.* 14, 1865. C. R. BUCKALEW.

WINTER OATS.

Eds. Co. Gent.—A gentleman writes me from Tioga county, N. Y., in relation to the winter oats, of which I happened to speak in a late number of your excellent journal, requesting a few seed, adding, "I was not aware there was such a variety of oats." I forwarded him the seed, adding that I had not time to write him the particulars about the variety, but would do so through your columns, with your permission.

Spring oats have been considerably cultivated at the South, since its first settlement, but as they ripen late, heading and maturing after the summer heat and droughts come on, they are so likely to be damaged thereby, that the product is very uncertain, and they can hardly be considered a profitable crop. For like reasons spring rye and wheat are not sown here, except that some put in the latter in autumn as a late sown winter wheat.

Winter oats, on the contrary, are of comparatively recent introduction, and for this climate prove a far more valuable crop. They were, I think, first grown under the name of "Egyptian oats." We believe, however, that they were originally introduced from France. In the Bon Jardinier it is stated that a winter variety is much cultivated and esteemed in Brittany and the west of France, but its success is uncertain in the east and north, where frosts throw it out and destroy it. It is very productive in straw and grain, which last is heavy and of excellent quality. It is sown in September or early in October, in districts where the winter frosts are not found. In others it is usefully employed for the first sowings in February or the last of January, which, if made with this species, are much more sure than the oats sown in March. This is particularly the case in light soils, which fear the effects of drought, and where, for this reason, the earlier sowings are most suitable. In these the winter oat is found very useful.

The oat mentioned above, we have no doubt is our white winter oat, known here as the "Jones oat." The straw is long, and it tillers freely, and the grain is much heavier than that of spring oats. There is also a black variety, of which the straw is not as rank, and which, upon trying it a single season, we did not think equal to our old sort.

We sow this crop here in the month of September or early in October, one bushel to the acre. It comes up in the fall, and affords a good deal of feed to stock in the winter. If they are turned upon it only in dry weather, and are removed as soon as the spring growth commences, the crop is not injured. Feeding stock upon it when the ground is soft, is not to be thought of. The amount of the crop varies of course with the quality of the soil, and also with the amount of rain that falls after it begins to shoot into head; but it is generally a profitable crop. It is most valuable in seasons following a deficient corn crop, affording abundance of grain and forage when the crib and fodder stack begin to run low.

These oats are also sown, as in France, the last of January and through February, but the crop, though more sure than spring oats, because it can be sown earlier, is not as large as if sown early. Sometimes, however, in very severe winters, the fall sowing is killed out, when a new seeding is given in February, which is ploughed or harrowed in, and more or less seed is applied, according to the extent of damage by the winter. Here spring sowings have yielded fine crops the last two years. By the way, winter oats, in hard winters, sometimes appear almost exterminated by cold, and yet rally, tiller out broadly, and a full crop results. We were particularly struck with a case of this kind in 1862–3, an excellent crop being gathered on land, we should have felt, had it been our own, inclined to resow. There are a good many of these oats sown in February, from the fact that fields are then at liberty that were occupied by crops at the proper time of sowing, and, moreover, it is a crop put in with so little trouble, at a time nothing else is being sown, that if it fails, partially or entirely, the loss is comparatively small.

Dr. Phillips, and many others, frequently sow with the oats in the fall, a bushel per acre of "long" or red cow pea, a species of *Dolichos*, and a very valuable crop here, but which you would call at the north not a pea, but a sort of bean. This requiring heat to germinate, lies in the ground through the winter, comes up very late in the spring, and is just ready to commence growth when the oats are removed, and in fair ground covers the soil with a heavy crop of herbage, and, to use the doctor's expression, "If on rich land, before frost, they will defy any animal to trot through them save an elephant."

Winter oats cut when fully ripe can be grown several years on the same ground without fresh seeding. My neighbor, Mr. Henry Brittain, has a patch of some three acres or so near his house, which at least 5 years ago, and I know not how long before, was covered with winter oats. When harvested the ground was plowed and sown broadcast with cow peas. These were cut for hay just before frost. In spring the field was again covered over with a fine stand of oats, which matured an excellent crop. Peas again followed as before. Some years, I think, but am not positive, this pea crop was fed off, but it was generally made into hay. In this way four successive crops of oats, with but one seeding, were made to my knowledge, and I think one or two before my attention was directed to the matter. One of these crops had a remarkably heavy straw, but was so affected with rust that it was left upon the soil to be consumed by swine. A plenty of seed was however scattered, and a good crop of sound oats followed the year after. In 1864 the ground was plowed up after the oats were cut and levelled for sweet potatoes, which were planted so late that the dry weather following prevented the crop from maturing. This winter the ground was again heavily covered with green oats, which were fed off, and as the beds were in the way of the cradler, the field was plowed over and planted in corn. This may seem incredible to northern ears, and I feel a little inclined to suppress the statement, bearing in mind the advice of Mr. Toombs to a farming friend. The latter wrote the Senator that he had made 50 bushels of measured wheat from one acre of land. This with us was an almost incredible yield. The reply received was that he would believe Mr. H., "but that any man who had skill enough to raise that amount of wheat to the acre ought to have enough good sense not to risk his character for veracity by saying anything about it."

I do not think that winter oats can be of much value in your latitude, being decidedly a "southern institution." They may, however, prove valuable for sowing in the spring so early that the spring varieties if then sown would be likely to be destroyed. With us, both for working stock and swine they are a great resource before the corn crop comes in.

Athens, Ga., Aug. 21, 1865. WM. N. WHITE.

PREPARATIONS FOR WINTER.

BY A HOUSEKEEPER.

Pickles.—Keep kegs or jars ready to receive your pickles as gathered. Those of no peculiar flavor, such as cucumbers, melons, &c., can be put together. Keep them in strong brine, a coarse cloth spread over them, and a weight keeping them under brine all the time. When you wish to prepare them for table use, soak them in a succession of clear water until free from salt. Then green them with grape leaves, in alum water, simmering them only. Scald them in strong vinegar for ten minutes, and tie up closely in jars. After a few days pour off this vinegar and pour on them strong boiling vinegar, with spices, horseradish, mustard, pepper, or anything you like, strewed between the pickles in a jar.

Cold Pickles.—Let your pickles wither after gathering. Have your vinegar salted agreeably, and strongly spiced; and cucumbers, nasturtiums, peaches, and many other fruits, are nicer for being pickled without scalding. The pickles require time for perfection.

Mangoes are made of young muskmelons, large peppers, tomatoes, or any hollow vegetable or fruit suitable for pickling. They are freed from seeds, and laid in moderate salt water for 24 hours; then scalded in vinegar. After a few days, fill them with chopped pickles, minced celery, scraped horseradish, mustard, and coriander seed. The piece cut out should be nicely fit in again. Hot spiced vinegar should be poured over them, and then they are kept as other pickles.

Yellow Pickle—Is made of white cabbage or cucumbers, or any blanched vegetable. The bleaching is done by keeping the vegetables in the sun, covered thinly with salt. They are proceeded with as any other pickle, only the spiced vinegar is highly colored with turmeric.

Sweet Pickle.—This most popular condiment is made of almost any fruit. Peaches are soaked in lye and rubbed free of fur; pears are peeled; plums pricked with a fork; cherries with their stems, grapes ditto, are laid in jars, the cherries with their leaves strewed between. Over the fruit is poured a syrup prepared by melting three pounds of sugar to one quart of vinegar. Amongst the fruit, delicate spices, such as cinnamon, mace, and nutmeg, are strewed. This syrup of vinegar is drawn off, re-heated, and poured over the fruit daily for a week. If the pickles do not taste sweet enough, add some sugar the last boiling.

Walnuts or Butternuts.—Keep in strong brine until you wish to make them up. Then scrape free of the gummy fur with which they are coated. Soak free from salt, and scald afterwards until tender enough for a fork to prick easily. Then make up another pickle, using onions and stronger spices than for sweet pickle.

Catchups.—These are made of walnut, tomato, or mushroom juice, procured by bruising; the mass being slightly salted, is after some hours severely pressed. The juice is then boiled to the consistency of cream, skimmed clear, and spiced as pickles.

Cucumbers grated up free of seeds; tomatoes chopped fine and then pressed dry, make delicious catchups. The dry pulp is seasoned with salt and pepper, and made as liquid with vinegar as you like.

Peaches mashed to a pulp, and seasoned with sugar, nutmeg and vinegar, is a nice and rare condiment.

Flavored Vinegars may be made by steeping the seed of any desired flavor in the vinegar until it is fully impregnated with the taste. Celery vinegar is nice for chicken salad, and pepper vinegar on sauce much used by gastronomes.

If cabbage or celery are scarce, or if you wish to have their use extended beyond their natural season, chop them fine and keep them under strong, cold vinegar. They answer well respectively for hot slaw and chicken salad.

PRESERVATION OF FRUIT.

The preservation of fruit is an object of great importance, and to preserve it, in as natural a state as possible, is what we all desire, more particularly such fruit as apples, pears and grapes. The time for gathering fruit depends upon certain conditions, and the manner of gathering them in a measure influences their keeping. A fruit room should be dry, cool, and have equality of temperature. Fruit should be gathered during dry weather, care being taken not to bruise it, as the injured part soon rots and spoils the sound fruit that comes in contact with it. Apples gathered during wet weather or early in the morning should be exposed to the sun to dry; on no account wipe them, as this rubs off the bloom as it is called, which to some fruits acts as a varnish, closing the pores and preventing the evaporation of the juices. Avoid laying apples in heaps for any length of time as it causes them to sweat and undergo a slight fermentation; and fruit that is thus treated, if it does not spoil, gets dry and mealy. By observing these directions, apples may be laid in well ventilated boxes and barrels and kept a long time. Some think grapes keep better when hanging than when laid upon the table—either way the cut end should be closed with wax to prevent exhalation—some hang them by the stalk, others by the point of the bunch, as in this way the grapes are less pressed against each other. I know of some Rogers' Hybrid grapes, No. 15, that were kept until last May in excellent order by being laid upon a shelf; and a certain amateur whose faith in these unrivalled Hybrids had been very weak, was convinced of their superior quality, by testing them at that time.

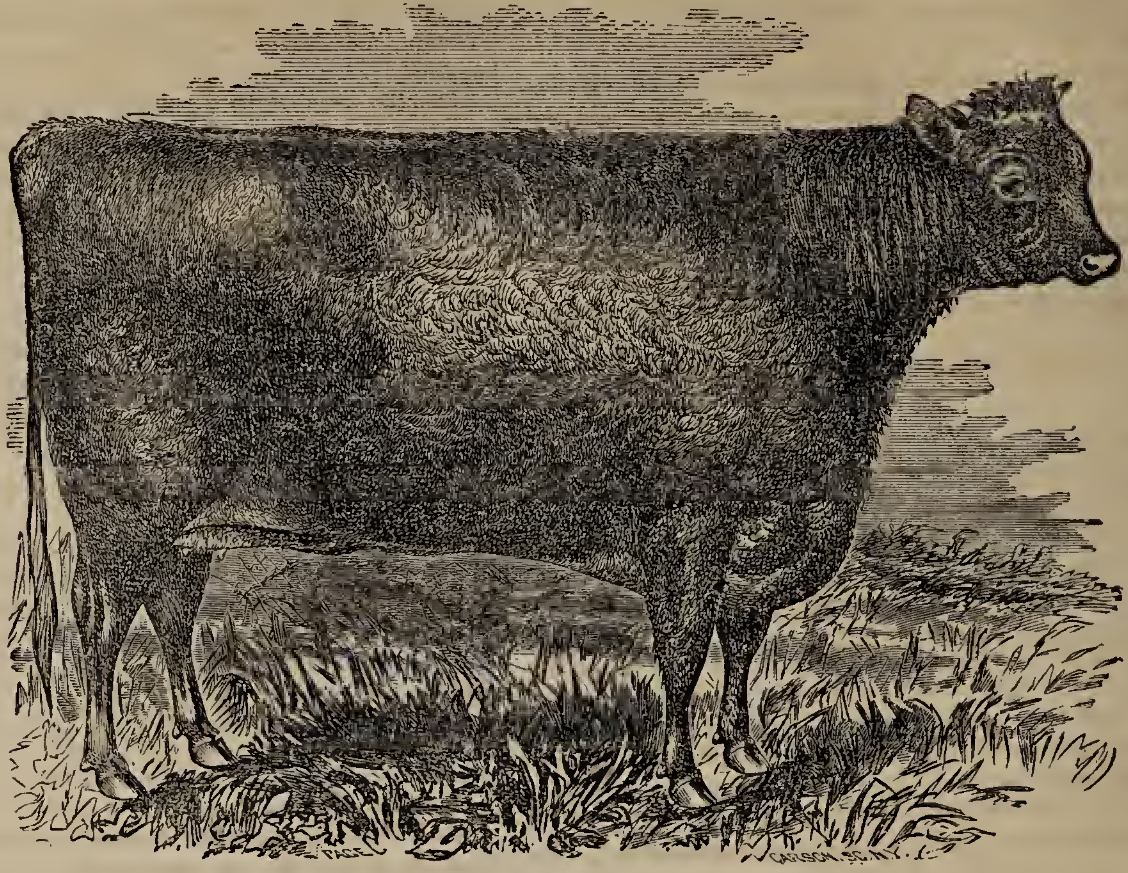
Melrose, September, 1865. O. H. PECK.

CURL OF THE PEACH LEAF.

EDS. COUNTRY GENT.—Our experience here does not sustain Dr. Kirtland's idea, that rusty iron applied to the roots of peach trees will prevent the *curl* of the leaf. Iron ore abounds in the soil of my peach orchard, and yet certain varieties curl so bad as to be entirely worthless. Nor does a vigorous growth seem to prevent it in the least. A thrifty tree, however, recovers a healthy foliage sooner than an unthrifty one.

Writers on this subject do not seem to be aware that the trouble may be avoided by the selection of certain varieties, such as Crawford's Early, Morris White, Cooledge's Favorite, Hyslop's Cling, &c., and avoiding such varieties as Geo. 4th, Troth's Early, Heath Cling, Crawford's Late, Red Cheek Melocoton, and others; but such is the fact according to my observations in this part of the country. Troth's Early curled so badly for several successive seasons that I pulled them out, while Hyslop's Cling, ten feet distant, has never been troubled in the least with it. A tree of the Heath Cling curls pretty badly every year; on each side of it stands the Cooledge's Favorite and Morris White, entirely free from it. J. A. D.

St. Joseph, Michigan.



SHORT-HORN HEIFER "LADY MARY,"

Winner of the "sweepstakes premium," (Society's medal,) open to U. S. and Canadas, offered for the best Short-Horn cow or heifer; also of first premium as a yearling heifer, at the late Show of the "New-England Ag. Society" at Concord, N. H. The property of H. G. White, South Framinghim, Mass. Pedigree as follows:—Red; calved January 27, 1864. Got by Hotspur 4030, out of Baroness by Barrington 1229—Red Rose 2d by Napier (6238)—Tube Rose by South Durham (5281)—Rose Ann by Bellerophon (3119)—Rosette by Belvedere (1706)—Red Rose by Waterloo (2816)—Moss Rose by Baron (58)—Angelina by Phenomenon (491)—Anne Boleyn by Favorite (252)—Princess by Favorite (252)—Brighteyes by Favorite (252)—by Hubback (319)—by Snowden's Bull (612)—by Masterman's Bull—(422)—by Harrison's Bull (292)—by the Studley Bull (606.)

"Goodrich's Early Seedling Potatoes."

Last May, not so early by some days or a few weeks as we might have done, we planted a peck of these potatoes The ground on which they were planted was a clay loam underlaid with limestone. The crop for 1864 was buckwheat. For three years previous to 1864 it had been potatoes, with slight manuring spread over the surface.

Last spring the buckwheat stubble was plowed in at the time of planting, the ground harrowed, and in order to give them full temptation to rot a heavy manuring of unfermented manure was put in the hill, and on this manure a table spoonful of plaster was put in each hill. This, of course, had a tendency to check the fermentation of the manure. The potatoes were cut for economy sake, and two or three small pieces put in each hill. They were once hoed, and here the expense of cultivation ended.

As we wished to keep our present crop for seed, if it did well, we were in no haste to dig any. About the 20th of July, however, we concluded to try *one mess*, which was accordingly dug, and we found them of good size and plenty in the hill. They cooked dry and mealy, like matured potatoes. Aug. 8th we tried another mess, equally good. We then found the vines were drying from maturity—not from disease or accidental cause.

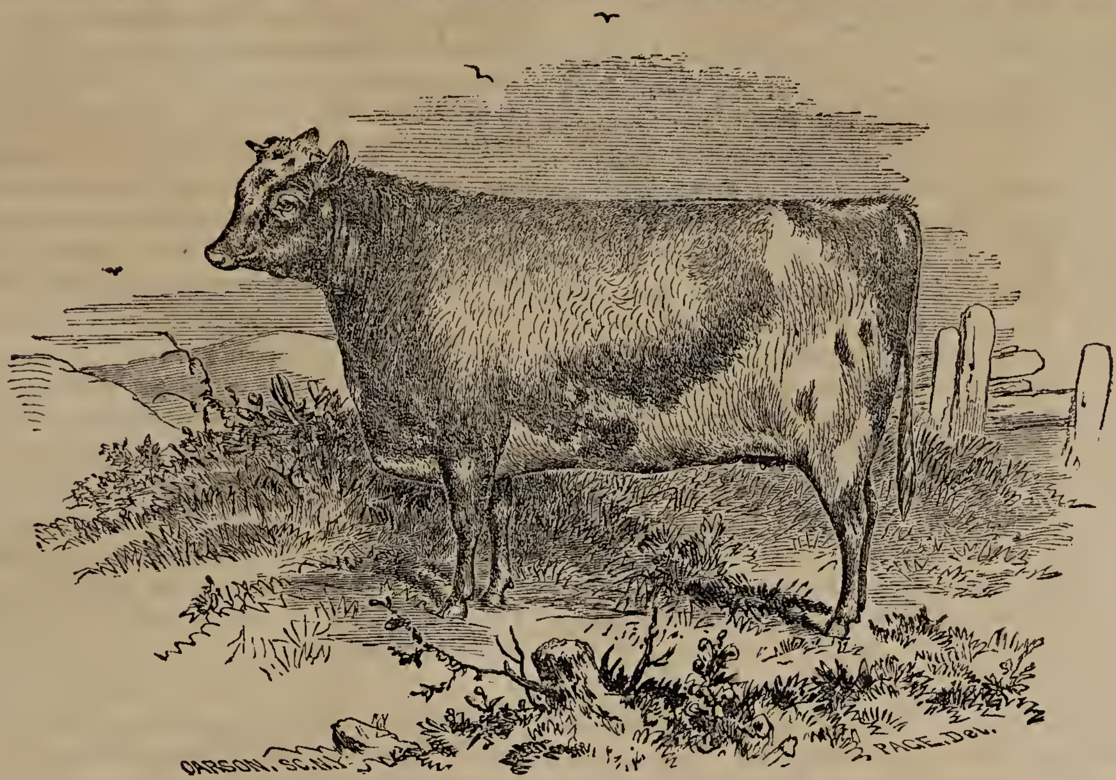
August 21st the crop was dug and stored in a dry loft. At this time the vines were perfectly dry · no potatoes, not even the smallest, adhered to them on pulling. The crop from this planted peck was large, and full five bushels. Near the centre of the patch a limerock rose so near the surface that about a dozen hills were nearly lost by dryness. Had these hills yielded like the others, the crop would certainly have been six bushels, or at the rate of twenty-four bushels from one bushel of seed. A pretty fair yield for any potato, early or late, in this region.

The superior earliness of these potatoes is apparent. Our crop was not planted with a view of fully testing their merits in this matter. The soil and season would have warranted planting them two or three weeks earlier, thus giving them a proportionately earlier maturity. Then we are in a high locality, where winter holds the reins of spring almost until summer claims her place in the circuit of the season. So we conclude that vegetables which are early here, will be earlier in more favorable localities.

Its healthiness makes it a potato particularly desirable. We never saw stronger or more vigorous vines, yet they were not of large and unsightly growth.

The potatoes were all of good size for cooking. No overgrown, large ones; but very few small ones. They are very smooth, having but few eyes, and those with scarcely an indentation. They are easily and quickly boiled or baked, and when brought to the table possess, very eminently, the white, mealy qualities that make good potatoes so valuable an article of diet. Taking them all and in all, we have never seen any other early potato equal to them. Such is our experience thus far. WILLIAM BACON.

Richmond, Mass., Aug. 25, 1865.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Short-Horn Heifer "Arzie," property of GEORGE H. BROWN, Washington Hollow, N. Y

To which was awarded the first prize as a heifer calf, at the New-York State Fair in 1864.

RELATIVE VALUES OF LAND.

Eds. Cult. & Co. Gent.—It seems to me that a few words upon this subject may perhaps be not altogether unworthy of your columns, or of interest to your readers.

A respectable farmer and very extensive landholder of my acquaintance, once remarked that a man could not, as a general rule, well afford to pay more than fifty dollars per acre for land, for the purposes of farming. I think that considering the sense in which he spoke, he was in the main correct. Of course this declaration, like most others, has its exceptions.

Farmers, then, who purchase lands strictly for the purpose of realizing a legitimate profit by the process of farming, will do well to consider what constitutes the real or intrinsic value of land.

In the first place, what are the essential qualifications to a good home farm—a farm upon which a man can live and thrive and prosper—upon which he can raise a family, have time to read the papers, attend church, social meetings, &c., and yet save enough to maintain him in the decline of life with ease and comfort?

In reply to these requirements I would say—our farm, to be eligible for these purposes, must possess the following qualifications:

1. Good natural soil, and good healthy pure water.
2. About three-fourths of the tillable land should be slightly rolling or level.
3. At least one-fourth may be hill, and must contain a large proportion of good and useful timber.
4. The land should be well fenced, and improved with not less than a good house, barn and stable.
5. The farm should be adjacent to good roads, and convenient to a market, post-office, schools and church.

Can such a farm without drawback, be purchased for less than fifty dollars per acre? I argue it cannot. Farms in the neighborhood of large cities have in many instances reached an artificial value. Prices range say from $75 to $300 an acre. It is true that a system of labor properly applied for horticultural purposes, may develop a large and remunerative interest, but this is foreign to the question we are now discussing.

Upon the other hand, lands may be purchased very cheaply in some localities. I have travelled through portions of Indiana, Illinois and Michigan, and find in Illinois, for example, that there are immense tracts of very fertile lands that can be bought cheap. Near railroad stations lands may be purchased for $15 and $20 per acre, unimproved; farther from the stations, but adjoining railroads, say $10 and $12 dollars per acre. Place improvements upon these lands, and their value is at once increased $10 or $20 per acre. If we go farther back into the heart of the great prairies, we can obtain lands for from $3 to $5 per acre, and so on.

In conclusion, I beg leave to submit the inference, that where men have small capital, they can do well to purchase cheap lands, and improve in proportion to their means. When men possess a moderate capital, they can with saftety venture to pay $50 per acre for farms embracing the foregoing advantages; but in no case can they pay extravagant prices and farm profitably. Henry B. *September* 13, 1865.

A New Hall of Horticulture.—The New Hall of the Horicultural Society at Boston was dedicated with appropriate exercises, Sept. 16th,—the President, C. M. Hovey, delivering an appropriate address on the occasion, in which he reviewed the history and growth of American horticulture, and described the organization and first meetings of the Society in 1829.

Real Estate in England.—A small freehold estate of about 244 acres, in the parish of Merton, Surrey, and about ten miles from London, was lately sold for the extraordinary high price of £60,000, being at the rate of nearly $1,250 per acre.

How to Build a Barn---Barn Literature.

If it becomes necessary for one to fight, he should know where his weapons are; and if a man builds a barn for the first time, it is important that he have a model before him, on the ground or in the books. It requires no considerable study in the first place, to ascertain exactly what sort of a barn you want; then you must decide whether you will stable your cattle in the cellar, if you build on the hill-side, or on the floor above, and use the cellar for a manure pit. Each plan has its advocates, but in our cold climate cellar stables for cattle are not objectionable if—and there is great weight in that if—proper precautions are taken to have good ventilation and dryness. Assuming you decide to build in a side-hill, and have an embankment of stone against the earth, of what height shall it be; how broad; in what manner ditched and laid? You consult your neighbors, and they all differ in opinion; one thinks a dry wall good enough; another prefers mortar, but does not see the need of a drain. You consult a country mason, and he is as oracular and undecided as the farmers. At last you turn to the books. Todd's Young Farmers' Manual § 194, may mislead you as to the direction the wall should be *battened*, as you may gather from that the inclination should be toward the bank, when it should be *from* it, so that when the frost heaves, the earth should be thrown away *from* the wall. Other sections of the same work will give good advice as to drains and laying up. In vol. 2 of Rural Affairs, you will learn how to secure the cellar from freezing without banking up on the sides the portion of the wall above ground. But you will nowhere, so far as I can learn, find any complete directions as to all the necessary details of this important matter. After much botheration and examination of authorities, I came to the following conclusions, and built accordingly: A wall against a bank eight to ten feet in height, requires a drain under it from two to three feet in depth, with proper inclination, and filled with small stones. Base of the wall three to four feet, and battened on the outside to width of the barn sill at the top; laid in lime and mortar, with a little—say one-fourth part—of water cement mixed with them, otherwise if the hill above is pretty steep, the water will ooze through the earth and the wall. It did so to mine, and I had to dig the earth again from the back of the wall, and cement it all over. See that the *back* of the wall is laid up smooth, as well as the front so that the frost won't get hold of the uneven edges of the stones, and use them as a lever to pry up the wall. To further protect the wall and keep it dry, and the occupants from suffering from disease produced by dampness, put a drain the length of the wall five or six feet above it, to carry off the water from the hill. Have windows in every side, double on the north and west, and the inner ones arranged to lift and hook up.

Assuming the building above is up, how shall the cellar be arranged?

In planning this before you build, see that the measures are given in the *clear*, and not let the outside wall take two or three feet from your manure pit or other important portion of the cellar; and in calculating the height of the cellar, allow a foot or more for the flooring; eight feet in the clear is none too high. "Rural Affairs," vol. 2, p. 268, gives directions as to the length and width of the cattle stalls, mangers, gutters, &c., and different modes of tying cattle. In the Country Gentleman of July 10, 1862, are representations of the most convenient stanchions in use, and they seem to be getting into favor wherever cows are kept for dairy purposes. My rows of cattle face the feeding floor, the manure pits being behind the animals, and the cattle floor is raised two or three inches, and just long enough, (5 or 6 feet, according to size of cattle,) to allow the manure to drop into the gutters behind, which are to be kept partly filled with absorbents, so that all the excretions can be shovelled into the pit. For root cellars, see Country Gentleman of Jan. 6, 1865. But Hamlet would be left out of the play if that ventilator pictured in the Register of Rural Affairs for 1862, p, 133, and applied and approved by Mr. Peters, (see Country Gentleman April 21, 1864,) were omitted. Without that in mid-winter, if your barn is well built, your cattle will suffer from want of pure air; the manure pits will not only saturate the hay and grain above, but fill the cellar with offensive odors, and the unnatural warmth of the stables will cause the hair to fall off from the cattle as spring approaches.

Designs for the upper stories of the barn are common enough, but I have found none better than those in the two published volumes of the Annual Register of Rural Affairs, Allen's Farm Book, and back numbers of the Country Gentleman. For details of carpenter's work see Todd's Manual. Mineral paint answers all the useful purposes in the country, and is much more lasting than any wash, and more than half cheaper than oil paint. The principal objection is that the color approximates to that of ordure, but as it is on buildings in which or under which that article is supposed to be extensively manufactured, that difficulty may be overcome or overlooked.

In these drouthy times we appreciate the advantatages of plenty of water, and yet I see about me farmers driving their stock from one-quarter to half a mile to water, morning and evening, when a cistern or small well dug near their barn, to receive the water from its eaves, when there *is* rain, would afford a sufficient supply for all the purposes of the farm.

In volume one, page 70 of Rural Affairs, are directions for building complete cisterns; and in Allen's American Farm Book, p. 312, is an account of very simply constructed ones, which the author says he has tried and found effectual. I have found a common well-hole dug and stoned up dry, hold the water from the barn in our hard soil, and if dug deep enough to reach the water below, then it fills up from both ends, and runs no risk of ever failing!

I propose to dig a large cistern in the hill above the barn, and a few feet from it, stone it up in cement, turn the water from both sides of the barn roof into it, and have a small pipe run from near the bottom, through the cellar wall of the barn, and along the inside of the end wall to a reservoir in the yard, so that water will at all times be accessible to the cattle.

If these hints are serviceable to any one in removing difficulties akin to those under which I labored when commencing my undertaking, I shall feel adequately repaid for putting them on record. R. G.

Lenox, Mass.

Breeding and Management of Colts---No. 3.

During the months that a mare is carrying her foal she should be liberally fed with good, clean, nutritious food, and should not be allowed any that is heating, musty, or otherwise unfit for any valuable animal to eat. Damaged fodder of any kind is not fit for a horse to eat, and should be thrown into the barnyard for the cattle to pick at, and trample under foot for manure. Corn and Indian meal are heating and unsuitable food for a mare with foal; green food and oats through the summer, and good sweet hay, carrots and oats during the winter, is the best food.

There is nothing gained by starving a mare while she is in this condition, but it will pay well to be liberal to her, and her offspring after it comes into the world. If the mare is expected to foal in March, or the first of April, she should be put up every night in a roomy, warm, comfortable stable, but not deeply bedded, and she and her young colt should be kept up nights until the first of May. If she foals in the night, as they usually do, in the morning she should have a pail of water with the chill taken off, and a bran mash given blood warm, and a small lock of hay. If the weather is raw or chilly, they should not go out, but if warm and pleasant, they will be all the better for running out where they can get the sun, which will do them both good, and strengthen the colt very fast; they are very fond of stretching themselves out on the ground where the sun can shine on them.

The mare should be turned into short pasture at first, and have a little oats twice a day. The oats will strengthen her, and make her milk richer without increasing the flow much. The colt while so young cannot take much milk, and if the mare is given such food as will make a great flow of it, there will be danger of having trouble with her bag unless she is milked. After the colt is two weeks old the mare may be shifted into better pasture; but the oats must not be discontinued; they make the milk rich, and that is what is desirable—not quantity, but the quality; any abundance of poor, watery milk will not make a fat, thrifty, fast growing colt.

At two months old the colt will begin to eat oats to its own great advantage, and they should always have a reasonable allowance of them; and they should be continued until pasture gets good the spring that the colt is a year old, when they may be discontinued entirely until the following winter.

When the colt is three months old, if the mare is not a good milker, barley meal may be substituted for her oats, which will greatly increase the quantity and improve the quality of it. From 4 to six quarts a day may be given, according to her size and qualities as a milker, and the abundance and quality of her pasture; but four quarts is sufficient for almost any mare unless she works, when nine quarts would be about right. There is nothing equal to barley meal to make a mare give milk, that I have ever discovered.

The time for weaning must depend upon whether the mare is to be kept at breeding; if not the colt should run with her for six months; but if she is with foal again, it may be weaned at four months old, and should not be allowed to run with her for more than five, for what this colt draws from the mother, is just so much drawn away from what is to make up and support the one that is to follow.

If the colt was allowed to run with the dam throughout the year, she would not be able to support the two. In consequence of the great drain upon her system she would get poor, and the youngster when it came into the world, would be the merest starvling, perhaps unable to stand, and would have received a stunt that it might never recover from. Some mares will not allow this privilege to the first one so long, and others would.

If the first colt is of very valuable stock, and is a fine specimen, some say give it every chance, for the next one may not be of any value; but I think it best to give them an equal chance, and have two ordinarily good ones, rather than one superior and the other worthless.

The mare will be in season again nine days after foaling, and this is the surest time to get with foal; if not served at this time, she will be in season again in six weeks, which is a better time, on account of its giving her colt a longer time to run with her. The colt when three months old, will eat a quart of oats in a day; when it is weaned it may be doubled for a few weeks, when, if the pasture is good, it may be reduced to one again until it is taken up for the winter, when two quarts should be its allowance. The colt should run out every pleasant day through the winter, and be put up in a good warm stable every night.

(To be continued.) H. C. W.

Goodrich's Seedling Potatoes.

Seeing a correspondent has sent you the result of his experiment with the "Goodrich Potatoes," perhaps mine might be acceptable also. From your advertisement, I procured last spring one peck each of the "Early Goodrich, the "Calico," and "Gleason," of D. S. Heffron, Utica. I planted them all in rows three feet apart on the 19th of 4th mo. (April.) The latter two I have not yet dug; the former I gathered on the 25th of 8th mo., (August,) though fully ripe some time before, and the result I quote from my memorandum, as follows:

Seed smallish—row 108⅔ yards long—yielded 6 bushels of potatoes. This was twenty-four times the amount of seed planted, and at the rate of 267 bushels per acre, (44½ rows per square acre,) planted three feet apart, or 534 bushels if rows would produce equally well at 18 inches apart, the common mode of planting them here. Required 54 feet to make a bushel. The season has been dry; they had little culture, and and a portion of the row was in heavy clay, in which all other seeds germinate imperfectly and do poorly, and I therefore think that with larger seed and more favorable circumstances, the yield would have been at least one sixth more, or at the rate of 300 bushels planted three feet apart, or 600 bushels at 18 inches, at which distance I believe other kinds grow as large and abundant as when farther apart. I neither planted nor gathered them with a view to test their *earliness*, though very early in the season, when on several acres of Mercers and other kinds, there were none as large as a marble, these were good sizeable potatoes for sale or the table. The above measurements were all accurately made by myself.

Near Philadelphia. W. WILBERFORCE WISTAR.

Sometimes words wound more than swords.

ROTATION OF CROPS---No. V.

Wheat Culture in Connecticut.

Wheat, as commonly raised without regard to rotation, is subject to a variety of diseases, etc. But when raised in the course of a rotation the liability is very much reduced, as found in experience. The soil here is well prepared to yield abundant returns, from having been often stirred, kept free from noxious weeds, and having had yearly application of manures, which have become fully incorporated in the soil, or at least certain portions that remain have. Of the varieties of wheat grown, the White and Winter is preferred to other sorts.

Plowing.— The crop of tobacco being harvested about the first of September, as soon after as convenient let the land be well plowed, about six inches deep, when it is ready for the seed.

Selecting and Saving Seed.—To obtain good seed, that from different localities in the same climate should be compared, and when the best is found, secured, even if at an apparently large cost. Measures should then be taken not only to retain its good qualities, but to improve them by careful growing and selection. That grown for seed only, should be grown separate, allowed to ripen fully, be saved and thrashed by itself. It should be screened through a sieve which will allow the smaller seeds to pass while retaining the largest. A further division, made by throwing it across a long floor, where the lighter will fall short, and can be separated from the heavier, is desirable, as giving only the best and heaviest for seed. Grain grown from seed selected in this manner, will never fail of improving and giving satisfaction.

Sowing.—Previous to the middle of September is the best time, and broadcast the most generally practicable. Two bushels of seed to the acre is the proper quantity of the generality of wheat. This should be washed in a brine that will bear up a potato, spread and dried before sowing. The ground should be thoroughly harrowed with a heavy harrow, to cover the seed, tear out the tobacco roots, and even the soil; the roots should be divested of all adhering soil, and carted to the compost heap, after which sow twelve quarts of timothy seed, with the addition of one pint of small clover seed mixed, to the acre. Finish off by harrowing with a fine seed harrow, which should leave the surface smooth and even, ready when the wheat is off, for the machine or scythe, as well as the wire rake.

Harvesting.—Wheat should be cut when it will make the best and most flour; this is found, so far as experimented, to be when the grain is in the dough state; while it yields to pressure it gives out no milk. In this state it makes a whiter, sweeter flour, and also more of it, with less shorts or bran than when cut in an earlier or later stage. The grain also wastes less in gathering than when ripe, the straw is much better for fodder, etc. The mode of cutting at the present day, when labor-saving machinery is so common, is different from that of former days. The sickle and cradle used by manual strength, are superceded by the reaper propelled by horse power. Whatever the mode of cutting be, whether by either of the foregoing, the binding, shocking, etc., should be well and thoroughly done, to withstand the necessary handling in carting, etc., and the danger of storms. The bands in binding should be tightly drawn and secured, as in curing, the straw shrinks, and as a consequence the bands are loosened, and often the work is delayed when expedition is necessary.

Shocking. — Usually twelve sheaves are put in a shock, ten in the body and two as cap sheaves; this cannot be too well done; the butts are firmly placed on the ground in the stubble, and well balanced against each other, the tops well pressed together, and the top sheaves well spread out, firmly put on and fastened. As soon as the straw is cured the grain should be hauled to the barn and housed, ready to be thrashed at leisure.

In the foregoing brief treatment of crops comprising this rotation, I have intentionally omitted giving any statistic returns, preferring rather the advocacy of a systematic rotation of crops, thorough preparation of the soil, generous application of fertilizers, clean culture, and a judicious selection and saving of seed. I would, however, here remark, that the returns are better proportioned to the amount expended than a less thorough system. I have frequently seen crops harvested and turned into market, in the production of which a certain amount of material and culture had been expended, which, with the addition of one eighth to one-fourth in culture and preparation for market, would have net the producer from one-third to one-half more, the greater part of which would have been clear profit. This matter of extra culture, etc., is not viewed by many extensive cultivators in its true light; with them it is the number of acres. It is the study of those with less means, how to make the fewer acres compete with the more. To the latter class we are mainly indebted for many of the improvements in agriculture. Wm. H. White. *South Windsor, Conn.*

MANAGEMENT OF PASTURE LANDS.

I have read with much interest the discussions at your late State Fair, on the above subject, as published in your paper. It is rather strange that among practical gentlemen of so much intelligence, there should be exhibited such diversity of opinion as to the advantages to be derived from keeping lands permanently in pasture.

It is to be regretted that in giving the results of their experience and observation, the speakers did not state the character of the soil upon which the experiments were made; and I have a strong conviction that if this information had been furnished us, it would have explained the statements which appear in your report to be so strangely irreconcilable and contradictory.

Before proceeding to state what I suppose to be the explanation of these different results, I observe that my own observation and experience have reference especially to the lands in the Scioto Valley. The bottom lands of this stream and its numerous tributaries, you are aware, have a surface soil of great fertility—a deep black, vegetable mold, under which we generally have a stratum of redish clay, not very tenacious. This latter in many instances, rests upon a bed of pure limestone gravel. North of Columbus, on the west side of the river, the formation is limestone rock, while on the east we have shale and sandstone. Below Chillicothe the sandstone formation underlies the whole valley.

The timber upon the bottom lands is walnut, sugar tree, blue ash, &c., denoting with us the best quality of land. Ascending to the high lands, we have generally strong, stiff clay soils, with white oak, hickory, and white ash timber. Farther back from the streams we frequently have a low black soil, resting upon a blue clay, the timber being white elm, burr oak, &c. The bottom lands, and the flat black lands, are equal to any lands in the world for corn ; but they are also unsurpassed for pasture lands and meadow, and these lands I am very confident from observation and experience, produce the best and most abundant pasturage where they *have never been plowed.* I might refer to a great multitude of instances in proof of this statement. On these lands it is, I believe, the testimony of all our farmers, that old pastures are by far the best. But it will be observed that with us grass is used principally for the production of beef; we have no dairies, and therefore we are not able to give an opinion as to the value of old pasture for the production of milk. The grass upon our old pastures where the land is dry, is principally blue grass, (*Poa pratensis,*) which upon the lands of which I now speak, flourishes as well as in the blue grass regions of Kentucky. Where the lands are wet, our principal grass is red top, which *stays* as well as the blue grass. My own experience is, that timothy and clover will produce more milk than either of the other grasses. I do not mean more per acre, but from actual experiment I do know that a cow upon a good pasture of timothy and clover, will give more milk than upon a blue grass pasture equally good. But the old blue grass pasture will carry more cattle, and put on flesh much faster.

So much for my experience and observation as to our rich, black lands. Upon our stiff clay lands the results are entirely different. Here, as a general rule, our pastures are benefitted by plowing as often as once in five or six years. This, I think, is the current of the testimony of practical men who cultivate these lands.

In favor of the practice of never plowing these lands it is urged that to produce good grass we must have a rich surface, and that from the decay of leaves and other vegetable matter our lands in a state of nature have a better surface than we can expect to procure by cultivation, which is all true enough. But it is well known that a soil that is so tenacious as not to be penetrated by air, will never produce a good crop, and our clay lands in their natural state are generally in this condition, the stiff clay appearing close to the surface. By cultivation and exposing the subsoil to the action of the sun in summer, and the frost in winter, and especially by the agency of the roots of red clover, we render the soil more permeable and mellow, and every day increases its capacity for the production of grass. But ordinarily this condition, when we have secured it, will not long continue, for there is a constant tendency in these soils, when saturated with water, to settle into their former tenacious condition. When therefore the pasture begins to fail upon clay lands, surface manuring is no adequate remedy ; it will all be washed off on the surface. And I insist in this case, even against the testimony of JOHN JOHNSTON, that for lands in this condition, the best practice is to apply the manure green and plow it under. It is the best, not only because in this way we save all the fertilizing matter, but because of the mechanical effect in rendering the soil porous and permeable.

It is probable that if these clay lands were thoroughly underdrained, which, with us, would cost about as much as the lands are worth, they might be profitably used for permanent pastures. But in their present condition it is very certain that the more profitable practice, when the grass begins to fail, is to break them up and plant to corn, giving us the benefit by its cultivation of exposing the soil to the action of the sun through the summer. In this crop, what is called the "flat cultivation" should be avoided, as it is the worst possible for this sort of land, which should never be left flat through the winter, but in ridges rather, so as to give the least injury from standing water, and the greatest benefit from the action of the frost. The common practice is to follow the corn with oats, then wheat with timothy, and the red clover to be sowed the following spring. But if the object were merely to renovate the pasture, I would upon these lands, apply all the green manure that could be spared in the winter and spring, after the corn crop was taken off, plow it under, and sow a mixture of timothy, red clover, blue grass and orchard grass, without any grain crop. Red clover should be included in the mixture of seeds, principally on account of the effect it would produce upon the soil, as before explained. It will cause a much better growth of the other grasses. BUCKEYE. *Delaware, Ohio.*

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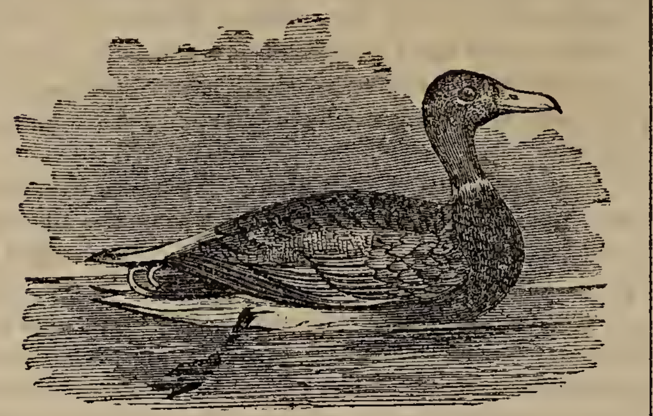
Farm Lands near Fredericksburg, Va.

EDS. OF CULTIVATOR—Permit me to answer a question asked in a late no. of your paper—"Where shall I buy a farm?"—by bringing to the notice of the writer and any others interested, this section of Virginia. Having resided in Stafford county for the last nine years, I may safely pronounce it as healthy as any part of the United States, being far enough removed from tide-water to escape the miasma from their meadows and swamps, and yet near enough to give us good markets for purchase or sale. With a soil, though by no means the richest, yet capable of being made very profitably productive, or in other words, with judicious cultivation and manuring it yields paying crops while it grows fat. The climate of the Piedmont district of Virginia, is of that delightful mean that well deserves the appellation, "the Italy of America."

Possessing all these advantages, it is yet surprising that improved farms can be bought for $10, $20, or $30 per acre, varying according to the state of improvements and location, while there are some tracts which can be bought for $5 to $8 per acre. But this will not long be the case. The owners of land here will soon learn that they are selling their lands below their market value, and will raise their price accordingly. And for the satisfaction of that timid class who ask the question—"Is it safe?"—I emphatically reply: Yes, perfectly safe, to every well disposed person who comes here to better his situation, to mind his own business, and to help build up the country.

Fredericksburg, Va., Oct. 12. ABRAM VAN DOREN.



MALLARD DUCK---*Anas boschas.* Linn.

The Mallard duck is the original of the well known domestic duck. It is impossible to give the date when the Mallard was first domesticated, but it is very certain that it was a very long time ago. Some domestic drakes have almost exactly the same appearance as the wild ones, but the female seems to have undergone more change, for we find her of nearly all of the hues of the rainbow, besides various other colors.

Every boy and girl is acquainted with the domestic representative of this bird, and as many of the habits of the wild bird very closely resemble those of its barnyard relative, we will be necessarily brief, because we are afraid that our readers will not thank us for telling them what they already know.

The Mallard is truly omnivorous, its food consisting of anything and everything. It has a most enormous appetite, and to satisfy it we have seen domestic ducks swallow substances which they could by no possibility derive any nutrition out of, and which we therefore conclude were eaten for the mere pleasure (?) of swallowing them. We refer to such things as string, rags, wood, &c.

The wild Mallard feeds both by day and by night when not disturbed, but where they are interfered with they feed chiefly by night, or very early in the morning.

The flight of the wild Mallard is rapid and well sustained. When flushed it rises with a single spring, and flies almost perpendicularly for thirty or forty feet, and then changes its direction to a horizontal line. According to Audubon they fly when on a journey, at the incredible speed of 120 miles an hour!

The nest of the wild Mallard is a very simple affair-consisting of weeds and grass arranged very careless, ly. The nest could be made by the birds in half an hour. Seven to ten eggs is the number laid. They are of pale, dingy green color, and measure on an average 2¼ inches long, by 1⅝ inches broad. A specimen in the writer's cabinet (presented by the Smithsonian Institution) measures as follows:

Smithsonian Institution cabinet No. 6080 (registered.)
Collector's original number, 13.
Locality: Lake Winnipeg.
Length: 2½ inches.
Breadth: 1 6-8 inches.

Specimens in our cabinet from Illinois vary very little in size, and not at all in color.

They raise only one brood in a season, which follow the parents as soon as hatched.

[A. O.] J. P NORRIS.

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Watermelons.—Mr. Roessle of the Delevan House in this city, has three watermelons, grown on his farm, from one vine, one of which weighs 42½ pounds, one 41 pounds, and one 36½ pounds.

IMPORTANCE OF THE GRAPE.

There exists at present through the country what many regard as a *grape mania.* We think it hardly deserves this name, although some cultivators may be more sanguine of profits and success than facts will warrant. The numerous authenticated statements of the high profits sometimes resulting from the sale of the crop, varying, under good management, from four to nine hundred dollars per acre, in favorable seasons, have produced almost a wild enthusiasm in that portion of the community who like to make money. In this particular it is probably carried to an extreme. But in relation to the value of the grape crop as furnishing a supply of fresh and excellent fruit to families, from mid-summer (if we get earlier sorts) to the succeeding spring, its value is hardly yet appreciated.

We observe a striking indication of the deep interest felt in grape culture at the late meeting of the Fruit Growers' Society of Western New-York. The room was crowded with eager inquirers after truth—many could not gain admission, so long as the discussion on the grape lasted. But as soon as it was discontinued, and other topics taken up, the audience was immediately thinned, and no difficulty was found in procuring seats for all.

We would not in the least degree discourage the present interest on this subject, and we hope our correspondents will give us all the facts they may possess in relation to it. In the above remarks as to profits, &c., we do not allude to the manufacture of wine.

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THE EARLY GOODRICH POTATO.

Dear Gentleman—I have just read Mr. Bacon's statement of the Early Goodrich potato. It is a pretty good story, but I am a little ahead of him; of course I shall expect to hear of somebody that is ahead of me. I have learned *not to be afraid* of the advertisements in the Co. Gent.

Last fall I sent to Utica and got a peck of said potatoes, gave three or four to a young friend, and planted the rest in my garden the last of April. As Mr. Bacon says, "I never saw more vigorous vines." In July I dug enough from time to time for a *mess*; last week I dug the rest of them, and measured them carefully; had 7½ bushels of large (yet not too large) potatoes. No doubt we used half a bushel in July and August. Eight bushels from a peck satisfies me very well. All that have seen them want some to plant next year.

Glen Haven, Sept. 18, 1865. B. J. CAMPBELL.

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Tropeolum King of Tom Thumb.

Last spring I procured of Messrs. J. M. Thorburn & Co., of New-York city, seeds of this novelty, and it was very gratifying for me to see them vegetate, as every one of them which I planted did; and I will take this opportunity to state that all of the flower seeds which I purchased of them, proved excellent, as the large show of superior flowers now in bloom in my garden is conclusive proof. This dwarf Tropeolum is worthy of extensive cultivation; the brilliancy of the flowers and the splendid contrast produced by the blue foliage has been the subject of much praise in my garden this summer; at the present time of writing (Sept. 25th,) my plants are loaded with flowers. They should be planted in a light, fresh loam in a dry situation; if planted where it is damp or heavy the plants will produce a great amount of foliage and but few flowers. O. H. Peck. *Melrose, Sept.,* 1865.

THICK AND THIN SEEDING.

We need further and accurate experiments to prove the precise amount of advantage which may result from a thicker seeding than usual. Any one who walks across a field of clover and observes bare patches in every part, will be convinced that a loss is sustained from a want of more seed. He will estimate the loss according to the amount of bare surface; in doing so he will invariably make it too small, as straggling plants may cover and hide the earth with a growth not half so heavy and dense as it will actually sustain. For this reason valuable information to every farmer would be derived from a series of experiments with varying quantities of seed, and weighing the products. The quantity of hay raised annually in the United States has been estimated at 20,000,000 tons, worth $200,000,000. An equal amount of pasture would make the whole grass crop worth about $400,000,000. If this annual growth could be increased above its present amount, as three is to two, it would be an annual increase equal to the cost of six or eight such canals as the great Erie canal between Buffalo and Albany. The subject is, at least, worthy of investigation. Our own observations and experiments have satisfied us that, on the majority of farms in this country, a greater increase than here stated could be reached by an addition in cost in seed equal to one-tenth of the increased value. In other words it would be quite safe to estimate the value of this improvement, if generally adopted, at $100,000,000 a year. A series of careful experiments, widely published, would prove a great public benefit. What Agricultural Society or ten individuals will, undertake the task?

But there is another advantage in thickly seeding grass. When the growth is thin, especially if on rich land, it is coarse and harsh, and disliked by domestic animals. This is a chief reason why old pastures are regarded better than new ones. But if closely seeded, the growth will be fine and soft, and the objection will be in a great measure removed.

When we come to apply this reasoning to grain crops, there are other considerations involved. The fineness of growth is not here an object, but large product alone. On land which is poor, or which possesses moderate fertility, strong and vigorous plants cannot be produced. They will not grow so tall, nor branch nor tiller so much. The deficiency must, therefore, be made up with an increased quantity of seed. This is the reason of the fact frequently observed that farmers whose land has been raised to a high degree of fertility, do not find it necessary to sow so many bushels of wheat or oats per acre, as those who possess poor land. It is worthy of experiment to determine where the limit should be in both instances.

In raising grain the amount of the product in seed is alone to be taken into consideration, and hence a thinner seeding for a rich soil may prove the most profitable. But in raising grass a thick seeding is absolutely necessary to give a fine quality to the fodder.

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Seedling Grape.—We have received from Mr. B. Gates, New-Lebanon, specimens of the "Mount Lebanon' seedling grape described by Wm. Bacon, Esq., on another page of this paper, for which he will please accept our thanks.

CLOTHE THE BOYS.

Messrs. Eds.—I have often thought of speaking a word for the boys, and as bleak autumn draws near it reminds me of past observation and experience. Well do I remember of driving cows frosty mornings without shoes, and how my little feet did ache with cold. I would get my hands full of stones, and run for a large white flint stone, and stand on that until I had stoned the cows along; then I would run for another; and every year of my life I am reminded of it, as I am traveling around in the late fall, and seeing boys bare-foot with their worn-out summer clothes on, shivering with cold. I have many times wanted to say to parents and guardians of such children, do you not know they must be cold, and are contracting rheumatism and debility, and that they have not the warm life-blood of a full-grown man teeming in their little veins to keep them warm?

Had I a boy put out, I would rather he would go to his daily toil half fed, rather than half clothed. See to it, you that have the care of children, that they are well clothed in woolen garments ere the cold weather begins, for the first cold weather is felt the most by us all.

Now I do not wish to interfere with the private affairs of any family, but I do feel keenly the necessity of clothing up the boys for winter sooner than they usually are; for the future destiny of this country depends much, very much, upon the rising generation, and if by writing these few lines, I can be the means of saving one poor boy a cold berth, I shall feel well paid; beside I know I shall receive the silent thanks of every boy that feels the keen and searching blasts of autumn. L. F. Scott. *Bethlehem, Ct.*

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How to Destroy Sheep Sorrel.

In one of your numbers a few weeks past, my attention was directed to an article on the destruction of the Rumex aceoscella or sheep sorrel, and the remedies enumerated to accomplish the object.

A few days since, while leisurely traveling along the beautiful valley through which the head waters of the Hudson pursue their ever varying course, I was in many instances unpleasantly impressed by the abundant appearance of this pernicious vegetable product in the meadows on either hand. In many extensive tracts of land, stretching for miles along the river's brim, entire fields presented a deep reddish-brown aspect from its profusion of growth, and among which the Oxalis stricta also frequently were seen to occur—another extremely acid plant. This led me for a time to reflect on the subject, in order to assign a probable cause for this profusion of growth, and the effects thus produced; and soon after—upon a closer inspection of the soil—came to the conclusion that it must proceed from an extreme acidity of the land upon which they grew. Common sense at once suggested the simple remedy, an alkaline substance; and among the materials, lime alone the article sufficiently capable of accomplishing the object desired.

Lime is not a fertilizer, as is generally supposed, but an ameliorator of the soil, neutralizing any acidity it may contain, and properly preparing it for the reception of the most appropriate manures. J. E.

THE CULTIVATOR.

ALBANY, N. Y., NOVEMBER, 1865.

Important Decisions---Taxes of Agricultural Societies.—Under the last amendments of the Excise Law, some assessors have supposed that agricultural societies, State, county or other, are obliged to pay a license fee for holding their exhibitions, and a tax of *two per cent.* upon the gross receipts therefrom. Col. B. P. Johnson, Secretary of the New-York State Agricultural Society, having applied to the Commissioner of Internal Revenue at Washington, for an authoritative decision on the subject, hands us the following reply just received:

> Treasury Department,
> Office of Internal Revenue,
> *Washington, Sept.* 9, 1865.
>
> Sir—In reply to yours of 25th inst., I have to say that as Agricultural Fairs are not held for pecuniary profit to the managers or others, but rather as a means of promoting the agricultural interests of the country, they are *not considered* as coming within the meaning of par. 39 of sec. 79 of the Excise Law, and are regarded as *exempt from license duty.* They are also *exempt from taxation upon gross receipts*, under section 108. Very respectfully, E. A. ROLLINS,
> Dep. Commissioner.
>
> B. P. Johnson, Sec'y, Albany.

Where, however, *Horse Trotting* forms a part of an agricultural show, the Society is *thereby rendered liable for both the license tax and the tax of two per cent. upon their gross receipts*, as was decided by the Commissioner under date of July 5th, in response to the following letter from an assessor in New-Hampshire:

> The "Littleton Fair Ground Comp'y" own a Trotting course and generally have more or less "trots" within the year, charging an admission fee. Their Exhibition in the fall is an Agricultural Show including "Horse Trot." Should they not be required to pay for $10 license, by the terms of Item 39, Section 70, and should they be required to return and pay on their gross receipts the two per [illegible]n? See sections 108 and 109. Respectfully yours [illegible] Assessor 3d Dist. N. H."

Both these questio[illegible] answered in the affirmative, thus showing a discrimination in rendering the law, as between *purely agricultu[illegible] shows*, and those which include the trotting of ho[illegible]—a discrimination which seems to us entirely just, sin[illegible] when this feature is added for the sake of drawing in a crowd or otherwise, it is proper that the privilege should be paid for. But on what are solely and legitimately agricultural, horticultural and domestic exhibitions, there is *no tax to be assessed.*

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The Great French Exhibition of 1867.—We have heretofore noticed the inception and progress of the great exhibition to be held at Paris in 1867—really *Universal* in the full sense of that much abused word,—to continue open no less than seven months, or from April 1st to October 31st,—and having the whole wealth and energy of the Imperial government to secure its success, as well as attracting the favorable co-operation of civilized nations throughout the world. The official correspondence of our Minister at the French court, on the subject, has just been published by the Department of State, to which we are indebted for a copy through Col. Johnson of this city. This includes the regulations adopted by the Imperial Commissioner, and a ground plan of the proposed building—a structure of elliptical form 490 metres, or over 1,600 feet in longest diameter, by 380 metres, or about 1,250 feet in breadth. In the park around this building accommodations will also be supplied for the exhibition of animals, plants, and objects which cannot be received within it. The design literally embraces the whole field of human industry. That part of it in which our readers are especially interested, includes all products of agriculture, of the forest, fisheries, &c.; the cereals and edibles of every kind; models of farm buildings; agricultural machinery of all sorts; all breeds of animals, even to dogs, insects and fish; hot-houses and horticultural materials; flowers, ornamental, hot-house, kitchen-garden, and fruit-producing plants; models of dwellings, etc., etc. It is difficult to see how the schedules could well be made more comprehensive.

Notwithstanding the United States were backward in exhibiting at the two previous French Expositions, the Commission has this year allotted us liberal space, and it is greatly to be hoped that our inventors and others will be prepared to occupy it. In 1855 about 1,100 square metres were set apart for us, of which not quite 300 were filled; in 1862, we had 843 assigned to us, but owing to the war less than 100 were occupied. The space assigned us for 1867 is not quite 2,800 square metres. Our minister, Hon. John Bigelow, expresses the opinion that if "the proportions which this Exhibition is destined to take in the eyes of the world," were as fully appreciated in America as they are throughout Europe, the difficulty would be to confine our contributions to the allotted space, rather than to secure enough to fill it decently. He points out that commissions of scientific men, agriculturists, manufacturers, mechanics, &c., are to be appointed in France and other European countries, to examine thoroughly each in his own department, the various classes of the Exhibition, and to report thereon for the benefit of their countrymen engaged in similar pursuits; and he wisely suggests that similar action should be taken here, in order that we may best avail ourselves in the several branches in which we are most concerned, of every step of improvement accomplished by other nations. "In making choice of men for this labor," he adds, "our academies of art and design, our agricultural societies, our mechanics' institutes, and other literary and scientific societies, might be consulted to advantage." Those who could most usefully be present in such capacities, would not be the persons acting as agents or exhibitors themselves, but "men, who by their knowledge and accomplishments, are qualified to describe in popular language the novelties with which the Exposition may abound. It is from the labors of such men as these that the country ought to derive its chief advantages from such an Exposition."

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Grapes from President Wilder.—We are indebted to M. P. Wilder, President of the American Pomological Society, for a box of Rogers' Hybrid grapes, including eleven of the best sorts, and specimens of the Concord and Diana, grown under similar circumstances, for comparison. The specimens received were Nos. 1, 3, 4, 9, 15, 19, 30, 41, 43, 44 and 45. We called in the assistance of friends and tasted them in rotation several times. The vote was in favor of 44 (black) as the best in quality—41 was very similar—19 and 43 were regarded hardly so good, and 45 rather poor. No. 4, although much the largest grape (being equal in size to the Union Village) was not equal to the best in flavor. Its large size, however, and showy appearance, may render it valuable for market. These six are all black, and two or three of the best, say 4 and 44, or perhaps 19 or 41, will fitly represent all the black varieties. Of the red sorts, No. 30, appeared to be a general favorite—15 stood next—No. 9 and 3 were rather inferior, and No. 1, although free from pulp, was too watery and insipid. There is much similarity in all the black grapes, and also in the red ones, but the black ones were generally preferred. No. 44, as well as most of the other black ones, on being compared with the Concord, were regarded as decidedly superior. All, however, were quite inferior to the Diana.

☞ The volume of the Transactions of the New-York State Agricultural Society for the year 1864, is now in course of distribution. The account of the Annual Fair at Rochester is fuller than usual. In live stock it records the principal exhibitors, which, next to a condensed and accurate transcript of the entries, is the best way of illustrating the premium list, by showing what competition the successful exhibitors encountered. In the notices of the Implement Show, which was very full and interesting, the principal machines exhibited are referred to with brief descriptions setting forth their peculiarities and the merits claimed for each; and to this feature we refer thus prominently because it is not only valuable as a matter of history and reference, but for the reason that it affords additional inducements to inventors and manufacturers to be present—since, beyond the publicity afforded by the occasion itself, the record here given remains permanently accessible to the farmers of the State. Thus among Reapers and Mowers alone, not less than twenty-one machines are briefly described.

Next we have a supplementary report from the Wine Committee, L. F. ALLEN, chairman, containing facts and suggestions which should receive the attention of those who experiment in the manufacture of native beverages either for sale or domestic consumption. The reports of the evening discussions during the Fair, and the addresses delivered at its conclusion, have been previously published in other forms.

The question whether dairymen should breed and rear their own cows, is treated at some length by Mr. L. F. ALLEN, whose experience and good judgment entitle his views on the subject to great weight. It need hardly be said that he ably advocates the affirmative, although expressly admitting in the outset that "no positive rule can be made to govern every individual action in any one branch of business, particularly in agriculture." The object of the dairyman being to secure the animal most likely to produce the largest valuable return in proportion to food consumed, the article includes a description of the best dairy cows, as well as the manner of obtaining or breeding them—in-and-in breeding, the "best breed" for the dairy, the hardihood of the foreign breeds, &c.

Dr. FITCH's address at the last annual meeting gives the results of his researches on the Hop insect (*Aphis humuli,*) and the remarks of J. A. WARDER of Ohio, include some of the leading conclusions reached by the Flax Commission of the United States Agricultural Department on the treatment of this fibre for economical purposes.

Judge DENNISTON of Steuben, contributes a full and instructive account of the Grape culture now so rapidly extending in that county—including not only out-door cultivation, and the varieties tested, but also the modes of wine-making adopted. From this we gather that although there are newer sorts of promise, the Isabella and Catawba—especially the *latter*—are still the standard vineyard kinds.

Judge Denniston also reports the agricultural statistics of Steuben for 1864—the only county so reported—from which we learn that the wine manufacture of the year was nearly 38,000 gallons, over 36,000 of which were in the town of Urbana alone. The value of this wine is stated at $112,829. A careful estimate is given of the money value of all the other agricultural products of the county, in a classification the different heads of which are of sufficient interest to transcribe them here:—

Estimated Value of the Agricultural Products of the County of Steuben for 1864, *from Statistics collected by Hon. G. Denniston.*

Products of grass land, pasture, hay and seeds,		$2,146,174
Cereal crops,		2,021,824
Root crops and peas and beans,		427,537
Commercial crops, flax, tobacco, hops, honey, maple sugar, &c.,		139,579
Fruits, wine and market gardens,		272,050
Dairy—butter, cheese and milk,	$1,199,688	
All other animal products,	2,099,971	
		3,299,659
Total,		$8,306,823

Owing probably to typographical errors, Mr. Denniston's total does not agree with the items he specifies, which will account for the variation between the above aggregate and his.

Returns to circulars asking information as to the condition of agriculture throughout the State, and the average yield of the crops of 1864, were received from only eighteen counties, although the inquiries were sent to all. They generally report progress in farming, although in some cases the improvement is not very decidedly affirmed.

We have thus hastily glanced at some of the leading articles in the present volume, and can heartily commend it as a whole, to the attentive perusal of the agricultural community. Among a limited number of extracts are an article from Dr. Voelcker on Cheese Making, from the Journal of the Royal Agricultural Society, the continuation of Lawes & Gilbert's Report on Experiments with different Manures on permanent Meadows, from the same source, and papers on the rearing and treatment of calves and young stock, from the Scottish Society's Transactions. The usual abstract of the proceedings of local societies closes the whole.

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American Herd-Book.—The editor of this work, LEWIS F. ALLEN of Black Rock, has issued a circular with a view to the publication of the Seventh Volume—it being nearly three years since the appearance of the Sixth. We need scarcely express our opinion of the value of this work, and the importance of sustaining it; and shall endeavor to make room for the circular at length, as soon as possible.

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Mr. Stone's Sale of Stock.—We learn from the Guelph Mercury that this sale, which took place on the 4th inst., was well attended by breeders from a distance, as well as those in the immediate neighborhood. Many of the leading farmers of neighboring counties were also on the ground. The attendance of buyers was large, and the competition keen on some animals. The prices realized for cattle averaged about the same as last year and sheep sold considerably higher.

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Another Short-Horn Bull gone to England.—Mr. CORNELL writes us that his herdsman, John Watts, sailed on Saturday, with the "3d Duke of Oxford," for Mr. C. M. HARVEY, Walton on the Hill, near Liverpool.

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Fast Trotting.—One of the few places where the trotting of horses is carried on under its own name, and not under the alias of a "a trial of speed," or the misnomer of an "agricultural fair," is at the Fashion Course on Long Island. The papers state that on the 10th inst. the gelding Dexter, owned by Hiram Woodruff, trotted his mile in 2 minutes 18 1-5th seconds, under the saddle, thus excelling the heretofore unprecedented time made by Flora Temple, of 2:19¾. We have somewhere seen a tolerably full account of Dexter, but it is not now at hand—many would doubtless be interested in knowing something more of his breeding and history.

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Grapes.—At the American Institute Fair, which closed last week, the following prizes were awarded:

John Dingwall, Albany, N. Y., for the best collection of named varieties of native grapes, 52—silver cup, $15.

David Thompson, Green Island, near Troy, N. Y., for the best seedlings, 12—special $5.

More Cleansed Fleeces.—The Ohio Farmer gives the result of eighteen Merino fleeces shorn and cleansed in competition for prizes offered by the Board of Agriculture of that State. Only the gross and net weights of the fleeces are given, with no statement as to age or weight of the animals producing them, and no calculation as to per centage of loss. One of the fleeces entered appears to have contained more wool than came from a single sheep; as to the other 17 we have been at some pains to prepare the following table for the purpose of comparison with other similar trials. We give the list in the order of shrinkage:

Owner.	*Sex.*	*Weight of fleece.* *lbs.*	*oz.*	*Cleansed wool. lbs.*	*oz.*	*Pr. cent. of loss.*
A. P. Read, ...	——	12	4	5	8	55
C. Kelsey,.......	ewe.	10	12	4	9	57
H. J. Starr, ...	do.	14	15	6	0	60
W. H. Cochran,.	do.	11	1	4	4	61
C. Kelsey, ...	ram.	16	1	5	14	63
I. J. Anderson,..	ewe.	11	14	4	4	64
do.	do.	12	2	4	5	64
L. L. Sears,.....	ram.	23	1	8	3	64
E. Keller, ...	ewe.	14	6	5	0½	65
T. Gorby, ...	ram.	24	4	8	2	66
T. Jamison,.....	do.	20	12	6	13½	67
E. Matchem,....	do.	13	4	4	6½	67
J. Birchfield, ...	do.	21	11	6	13½	68
C. Kelsey,.......	do.	20	8	6	10	69
C. Stoolfire,....	do.	15	8	4	7	71
H. J. Starr,.....	do.	21	15	5	11½	74
T. Jamison,.....	do.	22	14	4	7	80

The average loss in cleansing the whole 17 fleeces is within a minute fraction of 65½ per cent., which is nearly 3 per cent. higher than on the fleeces shorn at Canandaigua, and 4 per cent. higher than on those tested at Jonesville, Mich. The averages on these three trials are:

	Weight of Fleece.	*Cleansed Wool.*	*Per cent. loss.*
Michigan—10 fleeces,....	12.40 lbs.	4.70 lbs.	61.5
New-York—14 do.	12.63	4.61	62.7
Ohio—17 do.	16.89	5.61	65.5

This illustrates a point which we suggested in our first remarks on the Canandaigua test—namely, that the heavier the fleece, the smaller the proportion of the wool it contains. Thus the average weight of fleece in the Ohio trial was about 4½ lbs. greater than in Michigan, but of this 4½ lbs. not one-fourth part, only 14½ ounces—was *wool*. Now if we could get at the cost of the extra feed by which these additional four pounds were put on, we should be able to know whether it was repaid by the value of the one pound of wool gained. The rule alluded to may be also traced in the above table, as follows:

First six fleeces,	average	12 lbs.	13 1-6 oz.	60 per cent. loss.
Second six do.	do.	17	15½	65½ do.
Last five do.	do.	20	8	72½ do.

Since the above was in type, we have received a letter from W. F. Greer, Esq., a member of the Ohio State Board, calling our attention to the fact that the figures were published by the Secretary without note or comment, merely to gratify public curiosity as to the actual returns made, while the Committee having the matter in charge, are to prepare their report with fuller details, and such remarks as they deem proper, at an early date. It is possible that our calculations above given will be found subject to trifling corrections when more carefully carried out, but we believe them to be substantially accurate as they stand.

Rogers' Hybrids and other Grapes.—We have received from John Dingwall of this city, a fine collection of Rogers' new varieties, including Nos. 1, 3, 9, 14, 30, and 32, among the red or brown varieties, and Nos. 2, 19, 41, and 44, of the black ones. After trying them side by side, Nos. 1, 19, 41, and 44, appear to possess superior quality—the first is the most distinctly exotic in its character[*]—Nos. 19 and 44 are certainly better in flavor than the Concord,—an opinion, however, in which some intelligent cultivators differ. We did not find in this collection No. 15, which is certainly one of the best. On the other hand, Nos. 2, 14, 30, and 32, do not possess so much merit.

Some grape cultivators still entertain doubts of the high value which others have set on the Rogers' Hybrids. None of them are nearly equal to well ripened Rebeccas, Dianas, or Delawares—but some of them at least are worthy of farther attention and trial. Many of them too nearly resemble each other to be retained separately—and Nos. 1 and 15 among the reds, and 19 and 41 among the blacks, would fitly represent the whole.

Since making the preceding examination, we visited the grounds of J. Dingwall, and saw these and many other varieties of the grape in bearing. The Adirondack bore this season, and ripened as early as Hartford Prolific—the Iona ripened with the Delaware. Allen's Hybrid, which in previous seasons grew and bore fine crops, is badly mildewed now, the present year being remarkable for the prevalence of this disease. This, the Adirondack, and in fact nearly all other sorts, are laid down in winter, consequently the degree of exposure they will bear, has not been determined. The Crevelling is highly esteemed, and is found to mature before the Delaware. As a proof of the good culture the grape here receives, many young vines of the Delaware, raised from single eyes in March, were now growing in open ground, with stout, thick vines, eight and nine feet long. Cultivators are learning that the Delaware is dwarf in its habit only when neglected. It will not bear the rough treatment under which the Clinton and Concord will thrive. The Northern Muscadine, Dracut Amber, and Perkins, all varieties of the Brown Fox, bearing side by side, exhibited the character and comparative value ot each. The Northern Muscadine is darkest colored and best in quality; the Dracut is nearly the same color, and slightly inferior; the Perkins much lighter than either, and quite poor. The Louisa, which so nearly resembles the Isabella, cannot at first be distinguished from it, but near maturity, a difference in flavor is perceptible. Still, it is not worth while to keep up the culture and name of such varieties as this, the Guarrigues, Hyde's Eliza, Payn's Early, Hanson's Early, and others, which so nearly resemble the Isabella, their origin. Canby's August, well known as a synonym of Black German, J. Dingwall asserts is very nearly if not identically the same as York Madeira.

The owner of these grounds cultivates small fruits and ornamentals with much success, and the visitor can hardly fail to find objects of interest.

Canada West.—A correspondent of the Rural New-Yorker, Mr. Peters we presume, writes to that paper that the Provincial Fair, lately held at London, C. W., was as usual a success. As to the show he says:

"Going directly from our State Fair, I was enabled to make a pretty close comparison. In the aggregate it was quite equal to the Fair at Utica. In cattle it exceeded ours, both in quantity and quality. The judges pronounced the ring of cows in the short-horn class unsurpassed by any in this country. There were some splendid specimens in each of the other departments. In coarse wooled or mutton sheep they were a long way ahead of us; better sheep I never saw. In swine and poultry they excelled us. Their horse department did not come up to ours. The dairy was fair. Domestic Hall was well filled. In implements the show was not large, but in harrows and cultivators they beat us, and some of each kind might be profitably introduced here. The Plowing Match was a sight to behold. Think of some 80 or 100 teams and plows competing, both boys and men. And such work! Few of us take the pains we ought in plowing. It would do our boys good to attend a Canadian plowing match."

The Canadian plowing matches are certainly worthy of emulation here.

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[*] The vine of this variety has much of the appearance of the foreign grape, and with us it has mildewed most.

Indiana State Agricultural Fair.—The Fair of the Indiana State Board of Agriculture was held at Fort Wayne on the 3d and several subsequent days of the present month. Fort Wayne, as is well known, is a new and thriving city of some 18,000 inhabitants, in the northern part of the State, at the intersection of the Toledo & Wabash and Pittsburgh & Chicago railway. The lot selected and fitted up for the occasion was half a mile from the city, and embraced 50 acres, on a fine, gently undulating piece of ground, containing some fine shade trees on its remote side, where it was traversed by a refreshing stream of water. These grounds were all arranged and handsomely fitted for the reception of articles and animals. About 20,000 persons were in attendance each day, as indicated by the number of tickets sold, and the receipts were satisfactory.

The exhibition of agricultural implements and machines was one of the best departments of the fair, and was made up of contributions from a large number of manufacturers. Mowers and reapers, threshing machines, grain drills, steel and cast iron plows, cultivators, portable frames for sustaining horse-forks for stacking, farm engines, wood-sawing maches, both cross-cut and circular, were well represented. A corn-planting machine, dropping in rows both ways, and planting fifteen acres a day with the assistance of a man and boy, we were assured by some who had tried it, had succeeded well. A peculiarity of western fairs, the exhibition of several excellent sorghum mills and evaporators in actual operation, mostly converting the fresh juice to molasses in half an hour, was an interesting part of the exhibition.

The collection of farm products was a good one. Some of the Goodrich potatoes were presented from several sources—showing the wide dissemination of these valuable varieties—although none of the newer and most valuable sorts were seen, as the Early Goodrich, Calico, and Gleason.

But few domestic animals appeared on the grounds. Sheep and poultry were in moderate numbers, and very few cattle were seen, a few good Short-Horns constituting the whole. Several large herds were expected from a distance, which induced the nearer cattle owners to omit exhibiting.

The exhibition of apples was a fine one, consisting of many good collections. With little exception they were large, fair, free from defects and correctly named. The show of pears was small—that of grapes rendered more interesting by contributions of Iona, Israella, Adirondack, and other sorts, from Dr. Grant of Peekskill and J. W. Bailey of Plattsburgh, N. Y., J. Knox of Pittsburgh, W. Heaver of Cincinnati, &c. The fine Concords from Pittsburgh, were unusully fine, being decidedly better in quality than those raised in New-York and Massachusetts, and the Herbemonts, in large compact shouldered bunches, six or seven inches long, were excellent. Two collections of American wines were presented for examination—from the California company, and from Mottier of Cincinnati. The first was found by analysis to contain about sixteen per cent. of alcohol, while in the latter it did not exceed nine per cent. The latter received the premium.

The evenings were occupied with discussions on fruit culture, under the auspicies of the Indiana Horticultural Society.

On the evening of the 3d inst. a party of forty or more, consisting of the officers of the State Agricultural and Horticultural Societies, and others, visited by a special train the residence of I. D. G. Nelson, about four miles distant, and had an opportunity of examining the fine grounds, orchards, &c., by moonlight. The citizens of Fort Wayne extended them hospitalities freely, and exerted themselves to make the occasion a satisfactory one. The only objection we had to make to the arrangment was the admission of catch-penny shows of a low character, and gambling tables, which should have been suppressed both by the society and city authorities.

Ohio State Fair.—From the Ohio Farmer we condense the following statement as to the success of this Show, which took place at Columbus, Sept. 12–15th:

"The show of cattle of the Short-Horn breed, was better than we have anywhere seen since the great show at Dayton in 1860, when the prize herds of Ohio, Kentucky and Indiana, so stoutly contested for the palm of excellence. * * * The quality of those on exhibition was of marked excellence, and there were enough in number to show that we have the means among us to bring up, within a few years, an interest which in former times was the pride and glory of Ohio, and which contributed in a great measure to the solid wealth of the State.

"As was to be naturally expected, the sheep department was filled with a numerous and notable host, showing the progress which our wool-growers are making in the production of one of the greatest staples of domestic consumption. * * Besides the main feature of fine wooled sheep, there was a handsome show of South-Downs, and a still larger show of Cotswolds and Leicesters, and a few Shropshires. The raising of these latter breeds of sheep ought to attract more attention than is at present bestowed upon it in this country. The increasing demand for this sort of wool, and the greatly increasing demand for mutton, in connection with the special adaptation of pasturage and markets in certain localities, point to this as a profitable branch of neglected husbandry. The growing of these sheep, though considerably on the increase in Ohio, is still far behind the greater increase of demand. Large wool growers can probably do better with fine wooled sheep. On the whole, we believe there has not been a better show of sheep at any State Fair in the country, than was exhibited this year at Columbus."

The show of implements was also good, and the attendance of visitors excellent.

The Agricultural Department.—The Maine Farmer justly says, in harmony with the univeral expressions of opinion:

We see it stated that James S. Grinnell, Esq., for the past three years the able Chief Clerk of the Department of Agriculture, and to whom the Department chiefly owes what it is, and what it has accomplished—has been removed from his position by Mr. Newton, and a nephew of the Commissioner appointed in his place. We are acquainted with Mr. Grinnell, with his unwearied labors in behalf of the Department, with his peculiar fitness for the responsibilities of his position, and are satisfied he could have been discharged only for over zeal in the performance of his duty. A man better fitted for the situation, we do not know, and his removal is a gross injustice to the farmers of the country at large—who, so long as Mr. Grinnell was connected with the Department, were sure it had one man of some executive ability and knowledge of the wants of the people connected with it—and another evidence of the incompetency of the Commissioner and the policy of favoritism upon which its affairs are conducted.

American Institute Mowing-Machine Trial.—The judges appointed at the great field trial of mowing-machines, held at Hunt's Bridge, July 25 and 26, have awarded the gold medal of the society to the Buckeye mower, built by Adriance, Platt & Co., Poughkeepsie, and No. 165 Greenwich-street, New-York, the many severe tests to which the various machines were subjected having developed so many points of excellence and superiority in the "Buckeye," as to fairly entitle it to this award.—*New-York Times.*

The potato disease has made its appearance to a limited extent in several parts of Scotland.

Inquiries and Answers.

Grasses and Weeds.—Would you or some of your correspondents give me information respecting the enclosed wild grasses—their botanical and common names, and the best mode to extirpate them. My lawn and slopes are completely overrun with them. The soil is in splendid condition; but recently laid down with red top and white clover. They have not made their appearance till this autumn. The one marked B. is a most spreading and noxious grass, and cannot be mowed either with scythe or machine; on account of its extreme wiry texture, the scythe can do nothing with it, and the mowing machine cannot cut it clean owing to its disposition to spread. What I want to know is, will it run out if I can prevent its running to seed, which seems almost impossible from the reasons assigned. I have been at great expense and labor in bringing my grounds into a high order of culture, and and it seems hard that I should have to break them up again in order to extirpate these unfriendly visitors. The grass marked B. some people call hog grass; the other, marked C., they call wild timothy. You will be good enough to tell me their right names, and a few remarks as to the mode to be pursued in banishing them from the land. They never made their appearance till the beginning of August. Whether it would be feasible to top-dress it with a coat of lime this autumn? A Subscriber. [The two specimens sent were the *Digitaria glabra* and *Setaria glauca.* They are both common weeds, the latter especially, which is frequently known as fox-tail grass. The best way to eradicate them is to enrich the surface with fine compost or manure, sow grass seed very thickly, or at the rate of a bushel or two per acre, and when it has fairly started keep it mowed down within an inch or two of the surface. The weeds will gradually work out.]

Fruits for the South.—Will you please give me the following information: What are the names of five of the *most approved and excellent varieties* of winter apples, such as will keep during the winter; the finest size and the best? The name of the five best varieties of fall and winter pears? The name of the five best varieties of the *earliest and best freestone* peaches? The name of some honest nurserymen where I can buy the *genuine* article—I want standard trees—some party who has a nursery not far from Philadelphia, New-York city or Boston? My reason for troubling you with these questions is, that I have a small place near this city, which I desire to turn into an orchard. At what age do standard apple and pear trees usually bear? C. S. M. *Richmond, Virginia.* [The many varieties of fruits have not been sufficiently cultivated at the South to enable us to determine those best adapted to that region. The following approximate list therefore may perhaps be considerably improved on a further trial. *Apples*—Nickajack, Ben Davis, Rawles' Janet, Hall, Jonathan. *Pears*—Bartlett, Seckel, Belle Lucrative, Winter Nelis, Easter Beurre. *Peaches*—Hall's Early, Early Tillotson, Serrate, Early York, Cooledge's Favorite, Large Early York. We consider the Nurserymen who advertise in our columns as strictly reliable; among them we may name Buist & Co. of Philadelphia; Haines & Hacker, Cheltenham, near Philadelphia, and Parsons & Co. of Flushing, Long Island, near New-York. There are several others we might add equally as good, but these will be sufficient. The age at which apples and pears first bear, varies usually from three to six years.]

Ground Bones—Winter Pears.—Will you have the kindness to tell me through The Cultivator if bones ground up would be suitable manure for wheat and corn; and if so, then in what quantities, and in what way should it be applied? Also what would be the best winter pears for this latitude, say 50 or 60 miles south of Washington? I have read of the Lawrence having a high reputation. Is it surpassed by any others? Is there a late edition of Thomas' Fruit Culturist? H. B. Hewitt. *Falmouth, East Va.* [Ground bones are a good manure on most soils for all crops, but they have the most effect on the turnip. Their effects last many years, especially if not ground very fine. They may be spread and harrowed in when convenient at the rate of half a ton per acre, more or less. The Lawrence is one of the best early winter pears in the North, but whether it would succeed well for the South can only be determined by trial. The Winter Nelis, although not so sweet a pear, is higher flavored. The tree is a crooked grower and an abundant bearer. Jones' seedling is a small, new, winter sort, of high promise. Prince's St. Germain is a good pear, although somewhat neglected of late. There is no late edition of Thomas' Fruit Culturist, although one may be issued another year.]

Three Story Barn.—Where can I go and see a three story barn, the *best* in arrangement, &c., of suitable size for a farm of 300 acres? I intend building in the spring, but want to get my bill of timber now. *J. B. H.* [Our correspondent will find a figure and description of a three story barn on page 138, vol. 3, of Rural Affairs. The plan may be modified according to circumstances and preferences. We know of perfect structure of the kind to recommend, but many three story barns are found in the farming region about Philadelphia.]

Conveying Water.—I desire to carry water about 1,000 feet, from a spring to my house, at a fall of from one to two feet in the 100 feet. Why can't I use hard burned drain tile, cementing the joints? There will be no pressure on the pipe, as the water runs into a cistern, and from that by lead pipe to the house—length of lead pipe say 100 feet. H. *Morris Co., N. J.* [The course to be adopted will be modified by circumstances. If the quantity of water is small, and the soil porous, much of it may be lost during the dryest part of the year, by being absorbed by the tile, and then by the soil. Hence in such case it would be advisable to lay the tile in water lime cement, and cover it with the same, so as to form a water lime tube outside the tile. But if the soil be clay and the quantity of water large, the escape of a part of it by absorption, would be little detriment.]

Culture of Orchards.—I have a young orchard, the the trees about eight years old. Would it injure the trees to sow clover or timothy? Or would it be better not to cultivate at all, but plow once or twice during the summer? J. M. L. *Lealand, Tenn.* [If the soil is fertile the grass will not probably injure the trees—indeed there may be cases where impeding the growth will prove an advantage. On poorer soils constant cultivation will be important. As rich and poor are only comparative terms, a distinct index or guide may be found by observing the length of the one year shoots; if they are less than a foot or a foot and a half in length, they are making quite moderate growth, and should not be impeded by grass. If on the other hand they are growing two and a half or three feet yearly, retarding may be useful.]

Ice House.—Can you give, in your Co. Gent., the best mode of constructing a family ice-house, with an adjoining apartment for keeping milk, fresh meats, preserves, &c.? D. [There are some difficulties in the way of connecting ice-house and milk room, which we have never seen entirely overcome. A thin wall between them causes melting rapidly; and a thick, non-conducting wall excludes the cooling influence of the ice. Cold does not pass horizontally so well as downward; ice placed in an apartment overhead will cool the air below rapidly, if the floor is thin or a good conductor, as of sheet iron, but the ice will soon melt away if thus exposed. We have no doubt all these difficulties might be overcome; and if any of our readers will furnish us a description of a successful contrivance of the kind, it will be acceptable.]

Warts on Cows' Teats.—I have a cow that is troubled with warts, very bad on her teats. Any remedy through The Cultivator would be thankfully received. W. E. C. *Liv. Co., N. Y.* [A correspondent recommends washing the teats with strong salt and water. night and morning, after milking, and if the warts are large, trimming them off with a sharp knife.]

Early Potato.—What kind of early potato is preferable to plant for market, the quality of the potato and productiveness considered? J. C. W. *Orange, Mass.* [Goodrich's Early, seems to be the favorite this season. If any one knows of a better variety, we shall be pleased to hear from him.]

Agricultural Encyclopœdia.—I want an Agricultural Encyclopœdia—something that will give, in brief, descriptions of all kinds of grain, vegetables and fruits—time for planting and ripening—mode of culture—kind of soils and manures best adopted to each, &c. Is there any such work? L. W. *Washington, D. C.* [We know of no such work.]

Books on Bees, Poultry and Fruits.—Please inform me what are the best works on Fruit, Bees and Poultry? J. T. *New Hamburgh, N. Y.* [Downing's last edition is the best work descriptive of varieties; Barry's Fruit Garden for pruning and training. Quimby and Langstroth are the best works on the bee. Bement's Treatise on Poultry is one of the best.]

1866 THE ILLUSTRATED ANNUAL REGISTER OF RURAL AFFAIRS. 1866

NO. TWELVE FOR 1866.

This publication, which has been so long before the public. and met so uniformly with a favorable reception, is now nearly ready for the coming year. It will contain, as usual, about

One Hundred and Thirty Engravings,

And its Contents, aside from the usual Calendar pages, presenting calculations for northern, middle and southern parallels of latitude, will be found as fresh and varied as those of its predecessors, in the value of the information presented and the amount condensed within its limits. It is sent by mail, postpaid, for

THIRTY CENTS PER COPY.

One Dozen Copies for Three Dollars.

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I.—MONTHLY CALENDAR, for the Kitchen-Garden, Flower-Garden, and Green-House.—FIFTY ENGRAVINGS.
  1. January—Hotbeds—Manure—Seeds—the Green-House.
  2. February—Starting Vegetables—Varieties—Training Exotics.
  3. March—Asparagus—Lawns—Laying Turf.
  4. April—Garden Preparations and Labors.
  5. May—Insects—Sweet Corn—Annual Flowers.
  6. June—Weeds, Tomatoes, Bulbs, &c.
  7. July—Memoranda for the Month.
  8. August do do
  9. September do do
  10. October do do
  11. November—Care of Roots—Shrubs, Winter Preparations.
  12. December—Memoranda for the Month.

II.—THE TIMBER CROP—TEN ENGRAVINGS.
  1. Preservation of Timber.
  2. Setting out for Screens.
  3. Thinning Natural Plantations.
  4. Artificial Plantations.
  5. Product and Value of Woodlands.

III.—MUTTON SHEEP—FOUR ENGRAVINGS.
  1. Comparison with Fine-Wooled Sheep.
  2. The English Breeds.
  3. Making a Beginning.
  4. Raising Market Lambs.
  5. Production of Wethers for Feeding.
  6. Feeding Mutton Sheep for the Butcher.
  7. Mutton Sheep crossed with Merinos.
  8. Mutton Sheep as Wool Producers.

IV.—IMPLEMENTS OF HORTICULTURE—TWENTY-TWO ENGRAVINGS.
  1. Rakes, Forks, Trowels, &c.
  2. Scissors, Knives, and Chisels.
  3. Syringes, Garden Engines, Seed-Sowers, &c.

V.—SHEEP BARN—THREE ENGRAVINGS.
  1. Plan and Description of Cuts.

VI.—LANDSCAPE GARDENING, &c—TEN ENGRAVINGS.
  1. Evergreens for Protection.
  2. Laying out Curves for Roads and Walks.
  3. Circular Flower-Bed.

VII.—FARM IMPLEMENTS—TWO ENGRAVINGS.
  1. Cumberland Clod Crusher.
  2. Corn-Marker.

VIII.—THE DAIRY—ONE ENGRAVING.
  1. Rules for Winter Feeding Cows.
  2. Short Hints and Suggestions.

IX.—VEGETABLES AND FLOWERS—SEVEN ENGRAVINGS.
  1. Field Culture of the Onion.
  2. Raising Vegetable Seeds.
  3. New and Desirable Flowers.
  4. Essential Points in Flower Culture.

X.—HORTICULTURE—TEN ENGRAVINGS.
  1. A Few of the Newer Pears.
  2. Training Grapes as Pyramids.
  3. Pears for General Cultivation.
  4. A Profitable Orchard.
  5. Apples, Grapes, Strawberries, &c.
  6. Horticultural Brevities.

XI.—RURAL ECONOMY—WITH NUMEROUS ENGRAVINGS.
  1. Winter Evenings for Farmers' Boys.
  2. What Shall Farmers Do?
  3. Haynes' Portable Fence.

*_** Several other valuable articles under this and cognate heads

The orders received in advance of publication for the ANNUAL REGISTER for 1866, are larger than ever, and it will meet a ready sale by agents, nurserymen, implement dealers, newsmen, and others, who may obtain terms in quantity by addressing the Publishers. Agricultural Societies will find it an excellent work for use as premiums and gratuities to members. It will be ready for sale early in November, when it may be ordered by mail or express from

LUTHER TUCKER & SON,
ALBANY, N. Y.

*_** The previous Numbers of the ANNUAL REGISTER, with the exception of Nos. 1 and 3 for 1855 and 1857, may also be had in paper covers at 30 cents each, or at a reduction when purchased in quantity COMPLETE SETS bound, are also supplied on *large and finer paper*, in 4 vols., muslin, containing over 1300 pages and about 1600 engravings, by mail, postpaid, for $6. Three of these volumes are now ready, and the fourth, including the *Annual Register for* 1866, will be published in December. They are sold separately or together at $1.50 each.

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EXPERIMENT ON SIZE OF HIVES.

GENTLEMEN EDITORS—It will be recollected by your readers, that last season I proposed the trial of bees in hives of larger and smaller sizes, by way of experiment. I gave the result of the last year's experiment, in two hives, one of nearly 2,000 cubic inches, in which a swarm was placed June 12th, that gave 28 lbs. surplus and filled the hive half full; and another of 1,200 inches, hived June 14th, that gave 40 lbs. of surplus, and filled the hive. The present season has been unusually poor for honey in this section. Colonies that have swarmed have given but little surplus; most of them, none. From the division of the boxes, making them small and contracting the passage between the hive and the boxes, half of my hives have given me swarms. Among the number were my two trial hives.

The small hive swarmed June 21st. To continue my experiment I placed it in a 1,200 inch hive, or a little less than 1,200 inches. The swarm has filled the hive and given eighteen pounds of surplus in boxes. The old stock gave eight pounds; in the two years, sixty-four pounds from both.

The large hive swarmed June 28th. I placed the swarm in a hive of the same size as the old one—nearly 2,000 inches. It has filled the body of the hive about half-full, and stored about the same amount of honey there that the other has in the body of the hive. Neither the old colony or the new have stored an ounce of honey in the boxes. The old colony gave last year 28 pounds, and filled the body of the hive half-full. Twenty-eight pounds from sixty-four, leaves a balance in favor of the small hives of thirty-six pounds. This, at the rate I sold my honey last year and this, amounts to $12.60; more than enough to purchase two new swarms and one-half of another, at $5 each. At 25 cents per pound it amounts to $9, within $1 of the price of two swarms. The surplus in every box was entirely free from brood-comb, except one small box of four pounds, in which there was a very few cells of brood in the old colony in the 1,200 inch hive. The very small amount of it might seem to indicate that it was rather the freak of the queen, than necessity, that led to the fact.

I certainly should not wish to convey the idea that this experiment settles the question of which size is finally best to establish as a rule, and follow, but I think it authorizes a continuance of the experiment. The swarms last season were nearly equal; both were large nice swarms; both are free from moths, and are fine colonies. The swarms this season were fine swarms, perhaps the last a little the largest. I discover nothing why it is not a fair test thus far. Of the old colonies one has probably 28 pounds in the hive, the other at least 50. The new swarms have probably about 25 pounds each. The large hive is half full of comb. The experiment thus far confirms the views I had previously expressed, as probably facts. One hundred cubic inches will hold a trifle over three pounds of honey, as placed in the comb by the bees. The difference between 1,200 and 2,000 inches, is about 25 pounds, a little more or less, as the bees vary some in building their comb and storing their honey. I think it probable had the room been circumscribed in the central apartment of the large hive to 1,200 or 1,400 inches, twenty pounds of the fifty they have stored for winter, would have been placed in the surplus boxes.

I think it probable that in a hive with one single board for walls, there would be more danger of perishing from cold in the small hive than in the larger one, if filled with comb. Yet it might be questioned whether the sacrifice of ten, fifteen, twenty or twenty-five pounds of surplus annually, is not too high a price to pay for the security afforded. Eighteen hundred cubic inches gives two hundred inches less room than the rule two thousand, and opportunity for six pounds of surplus. Sixteen hundred gives four hundred less, and 12 pounds surplus. Fourteen hundred gives six hundred less, and 18 or 19 pounds surplus. Twelve hundred gives 800 less, and 25 pounds surplus. This results so far as room is concerned. But it is not always certain that these results would follow. I find my bees are rather loth to commence work in empty boxes, when full ones have been removed. But the danger of loss in winter from small hives is much less in those hives that give the protection of double walls to the swarm. Everything taken into the account, I think the experiment deserving further prosecution. JASPER HAZEN.

Albany, Sept. 26, 1865.

HOW TO PICKLE RIPE TOMATOES.

AN OLD HOUSEKEEPER sends her receipt for pickling ripe tomatoes:

Select perfectly firm and smooth ripe tomatoes. Do not let them be bruised or have the slightest break in the skin. Put them into a glass jar. Boil the vinegar with a few whole cloves, allspice, and pepper. When the vinegar is perfectly cold, pour it on the tomatoes with the spice. Cork tightly, and place in a dark cool cellar or closet, but where they cannot freeze.

The Pear, Fig, and Cherry tomato, either red or yellow, make the best pickle if wanted for garnishing.

The vinegar must be pure and not *too* strong.

COOKING POTATOES.

EDS. CO. GENT.—I see in your paper, a request to know how to cook potatoes, that the centres should be done before the skins crack. Peach-Blows are better steamed, but when that is not convenient, the inquirer will find all difficulty obviated by putting them on the fire in cold water, with a little salt, say a small handful.

A SUBSCRIBER.

CURE FOR DYSENTERY.

MESSRS. EDITORS—Please publish the following remedy for dysentery. We have no hesitation in saying that in nine cases out of every ten, a cure will be effected:

Take 1 pint new milk, 1 oz. sheeps' tallow, and 1 gill good brandy or blackberry wine—put all together in a vessel, and make scalding hot. Take about one half, as hot as can be drank. The balance in about two hours after if needed. Try it—it can't do any harm.

California, Pa. D. SHALLENBERGER.

BILIOUS CHOLIC.

Place the patient's feet in warm water as soon as possible after taken with this painful and dangerous disease. Apply stimulating liniment to the surface. If no liniment is at hand, in its stead apply flannel cloths wrung out of hot water, or where some sweating herb has been boiled, and give the patient one tablespoonful of sweet oil, once in ten minutes, until relief is found. It seldom requires more than the third dose. A HOUSEKEEPER.

◆ ◆ ◆

Hog Cholera.—From several sources, says the Prairie Farmer, we learn that this destructive disease is again raging in many parts of the West. The amount of pork annually lost from this disease is immense, and would hardly be credited by those not well informed upon the subject. Although it has attracted the attention of medical men somewhat, yet none seem to have learned much concerning its cause or cure. It goes through a herd or neighborhood almost without check. Light is wanted. Has anybody a clue? If so, let us have it for the benefit of the afflicted.

THE KITTATINNY.

What is said of it, and who says it.

Size of berry fully equal, but rather larger (than Rochelle) decidedly sweeter, and an acquisition to this class of fruits. *I consider it the best Blackberry I have yet seen.*
CHARLES DOWNING.

I believe it to be the *best* blackberry I know of, and shall take the greatest pleasure in recommending it to my friends.
WM. S. CARPENTER.

Berries longer and more irregular than New Rochelle; we measured several an inch and a half long, and three inches in circumference, small seeds, juicy, sweet, with a true blackberry flavor. The fruit possesses the great advantage that it does not need to be overripe in order to be eatable, but while still hard enough to send to market, it is sweet and fit for the table. It is very hardy and a great bearer, and ripens gradually through a period of 6 or 8 weeks. AM. AGRICULTURIST.

It is equal in size and productiveness to the New Rochelle, much superior in flavor, and ripens a few days earlier. I shall make it the leading sort in my own garden for family use, as all give it the decided preference.
W. A. FITCH, *Associate Ed. Am. Agriculturist.*

Much sweeter and decidedly superior to the New Rochelle.
EVERYBODY.

For the originals from which the above are brief extracts, prices, &c., address with stamp, E. WILLIAMS,
Oct. 12—w2tm1t. Montclair, N. J.

GOODRICH
Seedling Potatoes.

Last spring the subscriber sent out a limited quantity of four new Goodrich Seedling Potatoes, for the family of the lamented originator, and can now furnish to order a full assortment of these seedlings, of 20 named sorts, true to name.

The Garnet Chili, Cuzco, Coppermine and Pinkeye Rusty Coat, each $2 per bushel, or $5 per barrel.

The Andes, Black Diamond, Callao, Central City, Mountain June Pinkeye, New Hartford, New Kidney, Pale Blush Pinkeye, White Chili, Nos. 241 and 330, the last erroneously entered at the last State Fair as "Early Jones," each $1 per peck. The new sorts as follows:

EARLY GOODRICH, the "best early potato," $1 25 per peck, $4 per bushel, $10 per barrel.

CALICO, a delicate early winter sort, $1 per peck, $3 per bushel, $7.50 per barrel.

GLEASON, a late winter sort, $1.50 per peck, $5 per bushel, $12 per barrel.

HARISON, the most solid and best late keeping sort, $2 per peck, $6 per bushel, $15 per barrel.

A peck of each of the four new sorts $5; bushel, $16; barrel, $40. A barrel to hold two bushels and three pecks.

No extra charge for boxing or cartage. Full Descriptive Circulars sent on receipt of 3 cent stamp.

☞ A liberal discount made to Agents and Dealers.
Oct. 5—w5tm1t. D. S. HEFFRON, Utica, N. Y.

CHESTER COUNTY WHITE AND
Prince Albert Pigs

FOR SALE, not akin, best blood in the country, $18 per pair. Apply to R. L. PELL,
June 8—w&mtf. Pellham Farm, Ulster Co., N. Y.

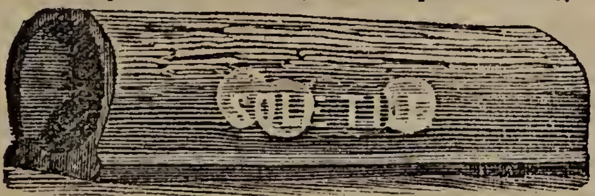
PRINCE ALBERT'S IMPROVED
Suffolk Pigs for Sale.

Prince Albert's Improved Suffolk Pigs, in pairs not akin, and bred from stock imported by the subscriber, from the farm of the late Prince Albert adjoining Windsor Castle, England.
W. B. DINSMORE,
Oct. 12—w6t. Staatsburgh, Duchess Co., N. Y.

NEW-YORK STATE TILE WORKS,

NEAR THE CORNER OF
LARK & LYDIUS STREETS, ALBANY, N. Y.,

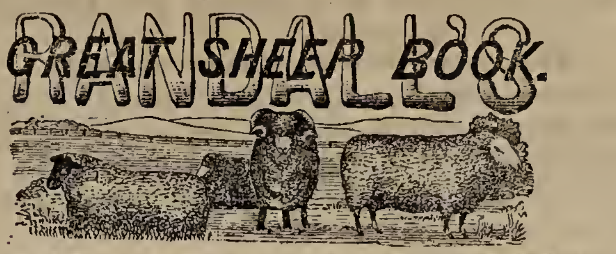
WM. M. BENDER, Proprietor. | **GEORGE JACKSON, Superintendent.**



The Subscriber is prepared to furnish, Round, Sole and Horse Shoe Tile, over 13 inches in length, by the cargo, or in the smallest quantity on demand, at prices that he will defy any other parties to undersell him. He will warrant his tile hard burnt, and to fit close at the joints, and altogether superior to any made in the United States.

All tile delivered on board of cars or boat in this city free of charge. Price list sent on application.

Also DRAINING TILE MACHINES for sale of the latest improved patterns. For further particulars address as above
April 6—w&m.



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A new Quarter of this popular *Agricultural, Literary and Family Newspaper* commenced Oct. 7. Now is the time to subscribe. Send $3 for a year—or, if you wish to know more of it first, the 13 numbers of this quarter (Oct. to Jan.) will be sent, *on trial*, for only 50 cents. Try the RURAL, and see if it is not like a honeycomb, having sweets in every cell. Address
D. D. T. MOORE, Rochester, N. Y.

THE PRACTICAL SHEPHERD.—

This is the latest and best of Dr. RANDALL's works on Sheep Husbandry—the Standard Authority on the subject. It tells all about the Breeding, Management and Diseases of Sheep, and should be in the hands of every flock master on the American Continent. Over 20,000 copies already sold. One large 12mo. volume of 454 pages—printed, illustrated and bound in superior style. Sent postpaid on receipt of price—$2. Address. **D. D. T. MOORE,**
Oct. 19—w1t. **Rochester, N. Y.**

GARNET CHILI SEED POTATOES.—A few barrels choice may be had for $4 per barrel delivered at the railroad. Remit to and adress W. R. FIELD.
JAS. H. SPENCER, P. O. Box, 1951, New-York, or
Bedford, Westchester Co., N. Y. Oct. 12—w4t.

HARDY VINES.—A large stock of the best sorts, well grown, at the

Lowest Possible Prices.

The stock must be sold. For lowest prices, inquire for what is wanted. D. S. HEFFRON,
Oct. 12—w6t. Utica, N. Y.

TRUE DELAWARE GRAPEVINES—From the original vine. Also Iona, Israella, Adirondac, Allen's White Hybrid, Concord, Crevelling, Diana, Hartford Prolific, Roger's Hybrids, Rebecca, Anna, Maxatawney, and all other desirable varieties.

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Sept. 28—w8tm1t. GEO. W. CAMPBELL, Delaware, Ohio.

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WILLIAM HACKER,

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WHOLESALE DEALER IN
SEEDS and PLANTS, and Agent for the best ENGLISH, FRENCH and GERMAN GROWERS.

Country Merchants, Dealers and Druggists supplied at the lowest rates. Aug. 31—w6mos.

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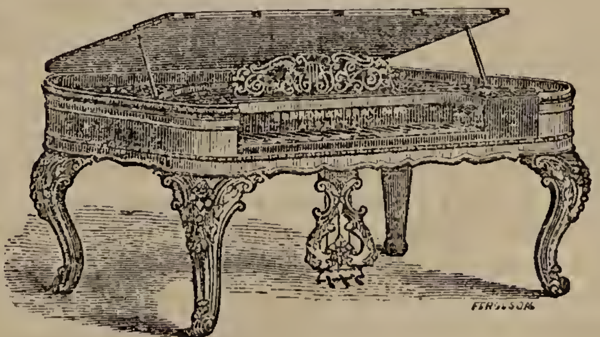

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The Cultivator & Country Gentleman.

Arrangements and Terms for 1866.

In pursuance of a design long entertained and only awaiting a favorable time for consummation, the Monthly edition heretofore issued from this Office, will be consolidated at the close of 1865, with the Weekly, under the united title of the

"CULTIVATOR & COUNTRY GENTLEMAN."

Since the establishment of the latter, in 1853, it has been constantly growing in favor, both with the former readers of THE CULTIVATOR, and with the Agricultural community at large; and the progress of events has shown, as was anticipated, that a weekly periodical would not only be well sustained, but would also by degrees take the place of the monthly, in the interest and preference of the public. The circulation of the one has already passed over largely to the other, and by consolidating the two, it is believed that progress in this direction will now be accelerated, very greatly to the mutual advantage of ourselves and of our readers.

Those who have so long extended a helping hand, with the approach of every beginning year, in sustaining the circulation of THE CULTIVATOR as a Monthly, may rest assured that little if any greater effort will be required to secure a similar number of subscribers for it in its new form as a Weekly. In this form, it will be continued in the same spirit and with the same energy that have heretofore characterized its management; the Variety of its Contents will be much increased; greater attention will be paid to the different Departments embraced in its design—to Horticulture, Stock-breeding, Domestic Economy, &c., while a condensed summary of the News and of the state of the Markets, together with some miscellaneous articles mainly of Rural interest, are also included. In fine, the aim will be to render THE CULTIVATOR & COUNTRY GENTLEMAN precisely such as to combine the greatest amount of information and entertainment which its price will admit, for the Farmer and Gardener, the country resident in his summer retreat, or the industrious villager with only a few acres under his control.

CHEAPNESS OF THE WEEKLY.—The weekly numbers of THE CULTIVATOR & COUNTRY GENTLEMAN are printed on a sheet of nearly the same dimensions as the present monthly issue, but in the form of a sixteen page quarto, instead of a thirty-two page octavo. In the year, *eight hundred and thirty-two pages* will thus be given, instead of 384 of about *half the size;* or more than four times the printed surface at about three times the price—$2.50 per year instead of 80 cents. By printer's measurement the reading matter obtained by a year's subscription will exceed that of most of the Four Dollar Magazines!

DEPARTMENTS EMBRACED.—Among the subjects to which the columns of THE CULTIVATOR & COUNTRY GENTLEMAN are devoted, the following are the most prominent, and more or less space is occupied by them in every volume, and in nearly every number:

1. PRACTICAL FIELD HUSBANDRY—all the Crops and Processes of Improved Farming.
2. DOMESTIC ANIMALS—Breeds, Diseases, Fattening and Management.
3. THE DAIRY—Butter and Cheese—the POULTRY YARD and the APIARY.
4. HORTICULTURE—Fruits and Fruit Trees; Landscape Gardening; Arboriculture.
5. KITCHEN AND FLOWER GARDENING—all Edible and Ornamental Plants.
6. PROGRESS of AGRICULTURE—Sales and Shows; New Implements and Inventions.
7. DOMESTIC ECONOMY—ENTOMOLOGY—RURAL ARCHITECTURE —BOTANY.
8. THE FIRESIDE—Natural History; Home Embellishment and Comfort; Miscellanies.
9. RECORD OF THE TIMES—State of the Crops; News at Home and Abroad.
10. FARM PRODUCE MARKETS—Albany, New-York and Boston Prices.

Terms for 1866.

Our rates of subscription for the "CULTIVATOR and COUNTRY GENTLEMAN" for 1866, are as follows; the order in all cases to be accompanied by the cash:

ONE COPY, one year,	**$2.50**
FOUR COPIES, one year,	**9.00**
EIGHT COPIES, one year,	**16.00**
FIFTEEN COPIES, *and one free to the sender of the List,*	**30.00**

And any additional number of copies above eight or fifteen, at the rate of **$2** per year each.

Clubbed with the Annual Register.—See Advertisement, p. 357.

ONE COPY, one year,	**$2.80**
FOUR COPIES, one year,	**10.00**
EIGHT COPIES, one year,	**17.60**
FIFTEEN COPIES. *and one of each free to the sender of the Club,*	**33.00**

☞ In a Club of Eight or more subscribers, if so desired, those not wishing the ANNUAL REGISTER may remit **$2** each, and those wishing it **$2.20** each. Clubs may go to as many different Post Offices as necessary.

Subscribers not Paying Strictly in Advance, will in all cases be charged THREE DOLLARS per year. Subscriptions for less than one year will be taken at 25 cents per month.

Subscribers in the British Provinces remitting in the bills of *specie paying banks,* will be supplied, with no extra charge for postage to the American lines. If remitting in United States currency however, 25 cents should be added to the above rates, for each yearly subscriber.

☞ TO THE PRESENT SUBSCRIBERS OF THE CULTIVATOR.—*As an inducement to the circulation of the* COUNTRY GENTLEMAN *among our present readers, we will send it* FREE FOR THE REMAINDER OF THE YEAR *to any person indicating his intention to continue his subscription for the paper in its Weekly form for* 1866; and the remittance for the coming year may be made, in a club when formed or otherwise, on the terms above stated. And clubs made up for now 1866, will receive the paper weekly *from the date of paying the money,* to January 1st, 1867.

Under this offer, which at present cost of paper and labor, involves for us a very heavy outlay, we nevertheless hope to enroll on our lists for the New-Year the names of several thousands for free copies during November or December; these lists, moreover, will all be in working order when the New Volume opens, and the pressure and confusion incident to the 1st of January will much of it be avoided. And to those not prepared at once to promise their subscriptions for 1866, and thus become entitled to the free copies, as above, we shall be happy to send Sample Numbers without charge, both for their own examination and also for distribution among their friends and neighbors.

RESULT OF CONSOLIDATION.—It is believed that by the consolidation of THE CULTIVATOR with the COUNTRY GENTLEMAN its circulation will be rendered larger as a *Weekly,* than it was as a Monthly in 1852, when the plan of the latter was laid down—notwithstanding the very greatly increased competition of the present times,—thus successfully accomplishing our own hopes—laying the foundation for still more effective labors and more satisfactory results in the future,—increasing our means of usefulness to the reader,—and perpetuating the time-honored name of THE CULTIVATOR in a form still more popular, and more highly valued, than it has ever worn before.

LUTHER TUCKER & SON.

Albany, N. Y., Nov. 1, 1865.

THE CULTIVATOR

THIRD TO IMPROVE THE SOIL AND THE MIND. [SERIES.

VOL. XIII. ALBANY, N. Y., DECEMBER, 1865. No. 12.

The Cultivator & Country Gentleman.

PARTING WORDS.

A few valedictory words seem appropriate with the closing year, although we hope so soon again to renew our relations with the greater part of those from whom we now take a temporary farewell. And in resuming these relations, as we shall become a more frequent visitor than before, may we not also anticipate a correspondingly increased interest in the contents and circulation of our Journal,—more frequent contributions to its columns from the experience of our readers, and a revival of all the old zeal in inducing others to read, for the sake of the information disseminated and the improvement urged?

The change announced in our last has already met with a gratifying response from hundreds of our old friends, and with an almost unanimous expression of approval, even from those who regretted most that the volumes of THE CULTIVATOR, now in their possession, should lose their uniformity with those that are to come. "I have taken THE CULTIVATOR for *twenty-one years*," writes a subscriber in Western New-York, "and think it has been worth *one hundred dollars* to me; and I would not now be deprived of the volumes for *twice their cost* as works of reference." Others give still higher estimates of the benefit already derived from its perusal. "I am much pleased with the change you propose," says one of our oldest agents in the river counties, "and shall enlist for the weekly as many as I can of the old subscribers. The new title is long, but colloquially we shall use only the first part of it, which brings us back to our old cherished name." And his letter is accompanied by a list of subscribers for the new volume.

Many other clubs, and still larger numbers of single subscriptions, have also been received, showing that in this change we have met the wants of the great body of our subscribers. It only needs that those who have as yet taken no active steps in the matter, should look around a little among our present readers, to secure them all, and many new ones, toward the list for 1866. [As a further instance of the reception with which our change is meeting in many localities, a list of *seventeen* subscribers for the Weekly for 1866 is received as we go to press, where there were only *two* subscribers for the Monthly for 1865.]

The new Number of the ANNUAL REGISTER for the coming year is now out, and will be as popular as any of its predecessors, and as great an attraction to subscribers. Any of our present agents desiring a copy *for use in canvassing*, we shall be happy to supply without charge, and others can enclose the price to us (30 cts.) and deduct the same from the club remittance, when the list is sent in. Looking over the pages of this instructive work often goes farther in inducing a stranger to subscribe than any other argument, as it shows at a glance the general character of what may be expected in the paper itself.

A very neat and attractive hand-bill has also been prepared for the New Year, at a heavy expense under the present cost of paper and labor. It will be sent to many of our subscribers without special application, together with a prospectus for 1866; and may we not ask that these documents should be used to the best advantage by posting them up or circulating them where they will be most likely to receive notice?

In repeating below our Terms for 1866, a word or two as to the formation of clubs may not be out of place. The price for a single copy ($2.50 per year) is less than that charged for any other Journal containing an equal amount of reading matter and published in a similarly expensive style, within our knowledge. But, as our circulation covers so wide a territory that it would be absolutely impossible to employ agents to traverse the whole country for us,—when any person takes the trouble to collect the subscriptions of others and send them in, in advance, with his own, there is a reduction in price, just as in any other business goods are sold lower at wholesale than at retail. This reduction was primarily intended to go to the agent himself to pay for the time, labor and postages involved; but it has come to be so generally the case that each member of a club should pay little if anything beyond the lowest club price, that now all are equal sharers in the saving thus effected and equally interested in enlarging the list. On our part the advantage of the arrangement only arises from the increase of circulation gained; so that if we refuse to send to less than a full club at club terms, as we are often obliged to do, it is because in that case we lose the whole benefit this concession is designed to accomplish. And to make up a club is not an affair that requires any special authorization or agency from us. All are invited to become voluntary agents, and it only requires a list of *fifteen* to secure one's own paper free of cost.

To encourage early subscriptions, we shall continue to send the paper, weekly, as promised last month, from the time remittances for 1866 are received—thus giving the numbers for December free to all subscribing in season to receive them. There is no way in which the benefits of the change can be so well shown, or a comparison with other weekly journals so satisfactorily made, as by securing copies of the COUNTRY GENTLEMAN for the current month; and for these reasons, as already stated, we are eager to supply them to all the present subscribers of THE CULTIVATOR who feel sufficient interest to apply. Were not the cost of paper so extravagantly high—now higher absolutely than at any previous time since the war commenced—we should send to all, without waiting to be asked.

To those who have been, some of them upwards of thirty years, and many more for ten, fifteen or twenty—regular readers of our Monthly, we have to renew our expressions of appreciation for their long confidence and many substantial evidences of approval. Those who desire to complete their sets should send for missing numbers or volumes at an early day, as there are already some which cannot be obtained. The volumes from 1853 to the present time can most of them be furnished by mail, post-paid, at $1.50 each, or by express at cost of purchaser at $1.25—thus supplying the cheapest as well as the most comprehensive works on American agriculture accessible to the public. Single numbers wanting will be supplied at 10 cts. each.

As to the New Year, we have already made arrangements, and others are in prospect, for adding materially to the number of our special contributors, and voluntary correspondence is also solicited from all parts of the country. Both in contents and in illustrations our effort will be more than to sustain the past reputation of our works,—to keep them fully abreast with the progress of events,—to lead, rather than follow, public opinion, and never to be deterred by false hopes of popularity from expressing our own opinions with entire frankness on any subjects in which the Farmer's welfare is concerned—where he is in danger of being victimized, or in need of more light—whether these subjects are directly practical, scientific, legislative, or commercial, in their character.

Once more expressing the confident anticipation of soon enrolling on our new books the great majority of all those under whose eye these parting words shall come, we now proceed to repeat the Terms, &c., as published in our last:

Subscription Rates for 1866.

[*Provided the order is* IN ALL CASES *accompanied by the Cash.*]

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Clubbed with the Annual Register of Rural Affairs.

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LUTHER TUCKER & SON.

Albany, N. Y., Dec. 1, 1865.

◆

Vermont Ag. College.—The trustees of this institution have made their report to the Legislature, in which they recommend a plan for the organization, and a course of study for the College, and for its connection with the University at Burlington, to be called the University of Vermont and the State Agricultural College.

Making Cheese from the Milk of a Few Cows.

Wm. B. Johnston of Miami county, Ohio, desires simple condensed directions for making cheese in a private family where 16 gallons of milk are obtained daily.

We shall endeavor to comply with the request, though it may be remarked in the outset that full directions cannot be embraced in a brief article. The making of good cheese depends upon a skillful manipulation of the milk and curds, and it is greatly facilitated by having a good dairy or cheese-making apparatus. The small-sized vat and heater of W. Ralph of Utica, with its recent improvement for equalizing and distributing the heat through the milk and curds, is one of the best that has yet been invented. To make a nice quality of cheese, good rich milk is required, and during the process of manufacture a slow even heat should be studied in conducting operations. Presuming then that our correspondent has a good vat and heater, and that the night's and morning's meal of milk are added together in the vat, we commence operations. The milk is raised gradually to a temperature of 88° and a sufficient quantity of rennet put in and mingled with the milk to coagulate it in about 40 minutes. The rennet should have been previously prepared by soaking and rubbing three sweet healthy rennets in three gallons of water, and containing sufficient salt to keep it from tainting. The skins after having been rubbed out and soaked for several days, may be taken out and the liquor strained and bottled. Its strength should then be tested, and if good old skins have been used, a half tea cup or less will be enough to curdle the milk. The coagulation of the milk having been perfected (which is determined by lifting a portion of the curd with the finger, when it should readily split apart, showing a clean fracture,) then cut the curd lengthwise and again crosswise of the vat, leaving it in perpendicular columns, say half an inch thick. In the best dairy districts a curd knife, composed of a gang of long thin blades, double edged and one-quarter inch apart, is used.

The curd is then left at rest some 20 minutes, or until it settles and the whey begins to look clear. Then a gentle heat is begun to be applied, and the curd very carefully lifted and the columns broken with the hands. This part of the operation should be done very gently and carefully, otherwise the oily particles will be worked off. The application of heat should be very slow, and very little manipulation is required in breaking beyond keeping the curd from packing at the bottom of the vat. When the mass indicates a temperature of 92°, shut off the heat and let the mass stand 30 minutes or more, occasionally gently lifting or stirring the curds to keep from packing. At the expiration of that time start the heat and raise to 95°, the curd being stirred gently, as before, to keep from packing. It may now stand another 30 minutes with only occasional stirring, when heat is again applied and the mass raised to 100°. No more heat, or at least this is the highest point to which it should be raised. After standing an hour or more, if the curd does not harden up, nor the whey begin to show a little acid smell, and the temperature has fallen a little more heat may be applied, but not to raise it above 100°. We should remark that in coolish weather a cloth should be thrown over the vat, when the curds are remaining at rest, to prevent heat from passing off.

To make a nice flavored cheese, the whey near the close of what is termed "cooking the curd," should have a little acid odor. It then should be drawn off, and the curd if right will have an elastic feel, and on taking a handful and compressing it, will on opening the hand readily fall again in pieces. Some dairymen try it between their teeth, and if the curd squeaks it is in condition to whey off. Where a vat is used, the whey being drawn and the water removed from under the vat, the curd is drawn to one end and worked over, so as to facilitate drainage, the vat also being canted up. Sixteen wine gallons of milk, well handled, will make about 16 pounds of curd, and after it is worked over and properly drained, and cooled, say to 86°, nice fine salt is worked in at the rate of 2½ pounds to 100 of curd. Some use 3 pounds of salt for 100 of curd. After the salt is properly incorporated through the curd, it is at once dipped into the hoop and put to press. For a 16 pound cheese, a hoop about 10 inches in diameter may be used. If it is desired to have a larger cheese, a 15-inch hoop may be taken, and the curds of two days put together. The manner of doing this is as follows: Press the first day's curd, and let it remain in press till the following day, when the hoop is slipped off and a thin rind from the upper side of the cheese trimmed off with a sharp knife, the edges of the cheese also being pared off. The top is then scarified with a fork, and the cheese returned to the hoop in a clean cloth. On this the new curd is placed, and the whole put to press. In a couple of hours it is taken from the press, bandaged and turned, and again put to press until the following morning, when it is taken to the dry-room and the top and bottom oiled with whey butter.

Where there is no convenient dairy apparatus for use, the milk may be strained in a tub. For heating, place a five pail kettle upon an arch or stove and have a large tin vessel made in the shape of a tin pail to set in the kettle, so as to be surrounded with water. A portion of the milk is dipped into the tin vessel, which should always be surrounded with water while being heated, and the milk raised to the desired temperature by being returned backward and forward in the tub. And so in heating up the whey and curd (a strainer being thrown over the tub) the whey is dipped into the tin vessel, and then back again to the tub, and the various degrees of temperature as described effected in this manner. When a tub is used, a rack and sink is needed to properly drain the whey from the curd. Coloring matter is now generally used in the dairy districts. It adds nothing to the flavor or quality of cheese, but makes it look richer. A nice article of carbonized liquid annatto can now generally be had at the shops for coloring the milk—or the crude annatto may be cut with lye and strained through a cloth. A quantity then may be added to the milk at the time of putting in the rennet, sufficient for any desired shade for the cheese to assume.

We have given here briefly the process of making first-class cheese. The whole art cannot be explained in one short article, but if the above outlines are followed, a little experience will in a short time enable the "*new beginner*" to make good cheese from a few cows.

ROGERS' HYBRIDS.

Messrs. Eds.—Having seen in your paper frequent allusion to the above grapes, particularly in your number for Oct. 19, a correspondent from Ithaca (S. J. P.,) induced me to venture a few words regarding these Hybrids. I had the privilege of first drawing attention to these, in our Essex Ag. Society transactions, having fruited a few of these varieties. Since then I have had constant opportunity to see them grown in our city and vicinity, and I am confident that they are destined to be the best large-sized grapes for out door culture in our country. Many of his numbers are rather late for New-England, but where the Catawba will ripen these will mature perfectly. Nos. 15, 4 and 19 are the most popular here, but No. 1, which has the past season been good with us, and has, from the past season's experience, south of New-England, been in good repute. Orders have been general for this number. No. 45, which Mr. Rogers considered too late for our locality, has, the past season, proved to be a superior large grape of the color of No. 15—*the berry and bunch nearly, or quite, twice the size of the Catawba.* I am inclined to think that this No. will prove to be the best wine grape of our country—it has but little pulp. This number *has not as yet* been sent out. At the Essex Agricultural Society Exhibition at Lawrence, Mass., Nos. 15 and 19 were shown from Haverhill, grown upon that warm and loamy soil, characteristic of the shores of the Merrimack river, to which I could apply the words of your correspondent, in a recent issue of your paper, that "they carried the day by storm." We were entirely eclipsed, none of us here (Mr. Rogers not excepted,) ever saw such bunches so well shouldered, and I fancy that those grapes, named in your last week's paper, as having been sold in Boston at $1 per lb., were from Haverhill. Nos. 9, 43, and some others, have ripened finely with us the past season.

Salem, Mass. J. M. IVES.

LARGE VEGETABLES.

We of New-England, though dwellers among the rocks and the hills, are not content that our farmer brethren of the West, with all their great advantages of a virgin prairie soil, should bear the palm alone in vegetable culture. The influence of a near market, the high price of land and of labor, stimulate us to develop the capabilities of our soil to the utmost; and if that soil be sienitic, its mineral constituents made by the decomposition of the bed rock, and rests on a hard-pan bottom, the capabilities of such a soil are not meagre.

Several of my tomatoes this season have weighed over two lbs., one being sufficient to heap a quart measure. Many ears of my sweet table corn have weighed over two lbs. each as gathered. One mangold wurtzel weighed twenty-seven lbs., and one blood turnip beet weighed twenty-eight lbs. This latter came up after the first hoeing; it was very symmetrically formed, fifteen inches in diameter, and just about equal to the filling of a half bushel measure, heaping full. One cayenne pepper plant had about 100 ripe peppers on it, looking sufficiently elegant for a parlor ornament; and one squash pepper plant had twenty ripe peppers on it, each as large as a good sized tomato. Our cabbages grow to weigh thirty, forty, fifty, sixty and even seventy lbs., each. This is the way we sometimes do things in "barren" New-England. Having the right kind of seed, the great secret for success in the cultivation of vegetables, is to plant in soil that has been greatly enriched by previous years of high cultivation.

Marblehead, Mass. J. J. H. GREGORY.

WATER-PIPES.

Several questions on the subject of pipes for conveying water having appeared in the Country Gentleman, the following may be acceptable:

Wrought iron pipe is not sufficiently durable to be an economical water conveyer. Lead is now too expensive. Cast-iron pipe is entirely satisfactory where the water is a little hard, but is soon choked with tubercles in soft water; cost of 1½ inch pipe about 25 to 30c. per foot. The most perfect is probably the wrought iron and cement pipe of the Jersey City Company; price of one-inch pipe 35 cents per foot. Unglazed drain-pipes are not fit for this purpose; but glazed earthenware or terra cotta, the joints made with cement, answer perfectly, when the head on them is not great. If of good quality a two-inch pipe ought to stand a head of 20 feet, but its use in such cases is not recommended unless made especially for the purpose. Cost of two-inch pipe about 13 cents a foot.

Wooden pipes will last many years in a clay soil, where they will be constantly wet, but in sandy or gravelly soils they are not durable. H. H. Babcock of Watertown, in your State, advertises them at prices from $1 to $1.75 per rod for sizes from 1 to 2 inches.

The farmer should be careful that his water-pipes are laid with the same kind of slope throughout, that is, a slope always ascending if from a ram or force-pump to the house, or descending when flowing from spring to a cistern. H.

HOW I RAISE MY FALL PIGS.

When the pigs are two weeks old, I put the sow and pigs in the pen or yard with the fattening hogs, allowing them, of course, to have all the swill and corn they can eat. Ordinarily, however, I boil potatoes and pumpkins, with a liberal seasoning of meal, for the first two or three weeks of feeding, which is better for the sows than corn. In the mean time have a hole in the pen large enough for the juveniles to go through, and there provide a side dish for them of sweet milk, with a little meal or shorts added to it. In case you do not have milk enough for the sows and pigs both, give to the latter by all means.

Previous to the setting in of the cool weather, they should have access (both old and young,) to a grass-plot, but after hogs get fleshy and are full fed, they will eat but little grass.

By the way, it is surprising how small a grass-plot will suffice for swine; often they have been fed upon it for a year or two, and it has once become fully enriched by feeding on it. The writer has the present season kept six and seven full-sized hogs on a plot of a trifle over an eighth of an acre, and for the most part the feed has been good. W. J. Pettee.

Salisbury, Ct.

SIMPLE LEVEL.

In order to construct this kind of levelling instrument, take a piece of wood, (*a b*,) fig. 1, about one inch thick and three feet long. Place it on the upper side, bore a hole through the middle of it at *c*, and drive a stick, *c d*, about three feet long, through that hole, making thus something like a T square.

Drive through a hole made at the lower part of *c d* and in the same direction as *a b*, an iron rod, *e f*, weighing about one pound. This is the level.

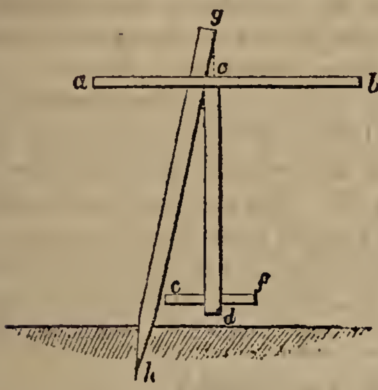

Fig. 1.

Take a stick, *g h*, sharp at one end, about four feet long, and hang the level to it by means of a short string passing through a hole at the middle of *a b*.

To set this instrument right, drive the stick *g h*, fast into the ground; send a man with a rod about twenty-five feet from you; let him hold it perpendicularly, hang the level on the stick, direct *a b* against the rod, and let the man rise or lower a strip of paper until one of its edges comes at *i*, fig. 2, in the direction of *a b*. Mark on the rod the point *i*. Turn the level end for end, and mark on the rod in the direction of *b a*, the point *k*, which is obtained in the same manner as the point *i*. Place one of the edges of the paper at *l*, midway of *i* k, and move the iron bar, *e f*, backward or forward, until the sight along *a b* strikes the point *l*. Then will the upper side of *a b* be a level line, and this instrument can be used for levelling purposes. The instrument will be in order if a point in the direction of *a b* will remain in that of *b a* when *a b* is turned end for end.

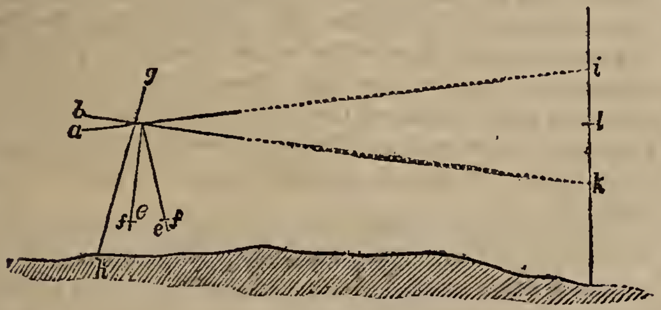

Fig. 2.

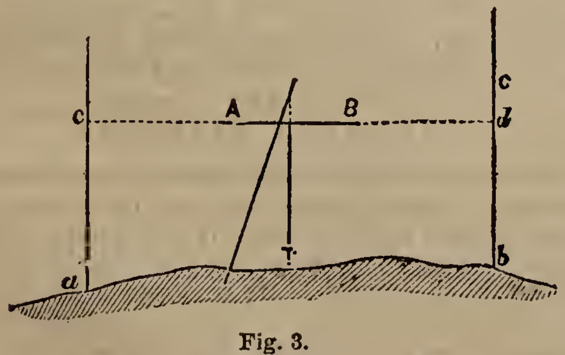

Fig. 3.

To level with this instrument, that is to find the height of a point above another, place the instrument between the two points; place a rod on one of the points, (*a*) for instance, (fig. 3,) and mark the point (*c*,) where the sight along A B meets the rod; send the rod at the other point, (*b* for instance,) direct the level against the rod, and again mark the point (*d*,) where the sight along A B meets the rod; then will the distance (*c d*) be equal to the difference of height between the points (*a*) and (*b*,) the point (*b*) being higher than the point (*a*) if (*c*) is above, and lower if (*c*) is under the point *d*.)

If the difference of two points, such as (*d*) and (*e*,) (fig. 4,) cannot be obtained by one station of the instrument, it can be done by intermediate stations. Take the difference of height between the point (*d*) and another point, (*b*) for instance, and then between (*b*) and another point (*c*,) and so on until you arrive at the point (*e*.) You obtain thus the differences of height between the point (*d*) and (*b*,) (*b*) and (*c*,) (*c*) and (*d*,) etc. Record this in two columns; in the first the difference of height where the ground rises; in the second the difference of height where the ground decends. Add the numbers in each column, subtract their sums, and that gives the difference of height between the extreme points, (*d*) and (*e*,) the point (*e*) being higher than the point (*d*) when the sum of the first column is greater than than that of the second, and lower if *vice versa*.

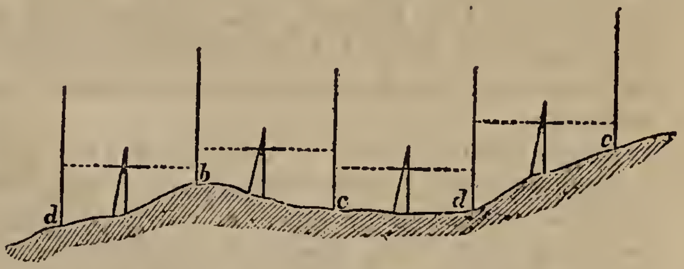

Fig. 4.

For instance, let us have the point (*b*) 2 feet three inches higher than (*d*,) (*c*) one foot two inches lower than (*b*.) (*d*) one inch lower than (*c*.) and (*c*) three feet higher than (*d*.) This is recorded in the column thus:

NOS.	+	—
b	2 FT.3 IN.	
c		1 FT.2 IN.
d		1 IN
e	3.FT.	
	5 FT 3 IN.	1 FT. 3 IN.
	+ 4 FT.	

The sum of the differences of height when the ground rises is 5 feet 3 inches, when it falls 1 foot 3 inches. The difference between the two is 4 feet, which is the difference of level between (*d*) and (*e*), (*e*) being the highest.

Precaution must be taken to have the rod man hold the rod perfectly still and perpendicular when a sight is taken, and also when the instrument is to be moved to a new station. To test the accuracy of the work, a level line ought to be done twice. Paul Mayor,
Berkshire, Tioga Co., N. Y. *Civil Engineer.*

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The Iona.—Dr. Grant has sent us a few bunches of the Iona grape. They were fully matured, and, to our taste, are above all, in quality, that can be expected or desired.

Making Butter from an Alderney Cow.

THE ANNUAL PRODUCT FROM LADY JERSEY, &C.

Visitors at the recent State Fair at Utica, who looked over the Stock Department, will remember a beautiful little cow in one of the stalls, with deer-like eyes—head fine and tapering, ears small, thin and deep, orange color inside; skin thin, light color and mellow, covered with fine soft hair. In fine a perfect little model of a cow, and attractive from having a peculiar fawn-like appearance. This was LADY JERSEY, bred by J. O. SHELDON, the property of R. H. POMEROY of the Mohawk Valley Bank, Herkimer co., and which took the first premium in the class of ALDERNEYS.

People who like nice cream butter, with a rich golden color, compact, fine flavored, and possessing all the qualities understood by the term "strictly prime," look first to the little Jerseys or Alderneys for the milk, and then know how or by whom the butter is manufactured.

A great many persons eat butter all their lives and yet have never tasted that which is "*strictly prime.*" Good butter is one of the luxuries which like gold is "not in general circulation," and which in these times can rarely be had even in exchange for the precious metal. There are many gradations of butter, from the prime to the rancid. Much of that sold in market as of the *best* quality, is merely passable, having no positive bad taste, but yet destitute of the rich, delicate flavor of the best.

Butter-making is a very old and *very high art*—judging from the miserable samples that one gets everywhere throughout the country. There is reason to believe that the country taken as a whole is losing the art of producing good butter, humiliating as the statement may appear,—but the facts and the product warrant the assertion.

We recently saw and tasted some of the butter made from Lady Jersey. Its flavor and beautiful golden color cannot well be described. You see nothing of the kind in the markets, because the kind is rarely or never sold.

Mr. Pomeroy gives us briefly the manner of manufacturing. The milk is set very shallow in pans, and allowed to stand until it becomes thick or lopperd. The cream is then carefully skimmed, but if any specks or mould makes its appearance in any part, the cream of that pan is rejected. The churning is done in a stone dash churn, and the temperature of the cream raised to 62 deg., by setting the churn and its contents in hot water. Nothing but the cream is churned.

After the butter has come, it is washed in cold water three times to expel the buttermilk, and is then salted with fine salt at the rate of 1¼ ounces for a pound of butter. The salt is worked thoroughly through the mass, care being taken not to injure the grain of the butter. It is then put away in a cool place and stands from morning till evening, when it is carefully worked over and either packed or made into rolls. For keeping butter nicely for a great length of time, Mr. POMEROY finds the best plan to be to make a brine of such strength that it will float an egg and cover the butter. The brine should be tested in the way described, for if the brine is too weak it destroys the color of the butter. Such is briefly the process of making butter that is of the finest flavor and quality, from an Alderney cow.

LADY JERSEY last year gave a product of 300 pounds of butter, and this year, up to October 26th, her product has been 290 pounds, to say nothing of cream used. Is she not worthy of the award made by the New York State Agricultural Society? At 50c. per pound, it will be seen that she brought her owner last year in butter $150, and this year her product at the same rate will reach, at the close of the season, at least $175. But such butter, if sent to market, would sell for much more than here named, and counting the sour milk, if fed to pigs, she will give her owner this year the snug little sum of $200.

X. A. W.

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THE LAUNDRY.

BY A HOUSEKEEPER.

Ironing.—All clothes iron more easily if taken from the line when just sufficiently damp to smooth well. If too dry they should be sprinkled, and rolled into tight bundles and laid in a basket. Colored clothes should not be sprinkled until the ironer is ready for them; it injures the colors for them to lie damp. For every ironer there should be a large stout table, covered with a thick smooth blanket double, and overlaid with a clean sheet. The skirt and bosom-board should have two or more layers of woolen cloth tacked on them smoothly, and then be covered with a close-fitting case of strong, smooth white cotton. Silks, worked muslins, tucked skirts, and all raised figured goods, should be ironed on the wrong side if possible. Most other clothes are ironed on the right side. The most particular parts of a garment should be iron last. Pantaloons should have the fold up in front of the leg. Skirts need have no fold made if ironed on the skirt-board, which is slipped into them. If ironed on a table, the fold should be at the sides.

Bed linen and table-cloths, napkins, towels, and so on, should be mangled; but this not being convenient in many private houses, they should be ironed in great perfection, and should have no creases in them. There are a variety of fluting and crimping-irons for doing up ruffles in these different styles. These are usually hollow, and have a heater which fits in them, and are used by the printed directions accompanying them.

Silks and woolens should be pressed with very uniform heat, as they are apt to change color, and will look spotted without extreme care.

Velvet should be damped, and have the wrong side *run over the face of the iron*, not be pressed under it—the last practice is ruinous.

Clothes should be perfectly dried before folding and putting away. Damp clothes smell disagreeably, and are very injurious to the health of the wearer.

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VOLATILE LINIMENT.

Two ounces of spirits of ammonia, two of sweet oil, and one ounce of alcohol—put all in a bottle, shake well, and it is ready for use. It is a remedy for all external bruises where the skin is not broken, for pain in the side, back or limbs. It is excellent for the headache—inhale it gently, and apply sparingly to the temples and back of the neck. There is nothing better for the sting of a bee, frosted feet or chilblains. In and wherever pain is indicated, this liniment is excellent, and no family will do without it when its value is known.

ANOTHER HOUSEKEEPER.

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Good audience for an auctioneer—buy-standers.

STONE AND GRAVEL ROADS.

We have urged on former occasions, the importance of constructing roads of uniformly hard materials, instead of soft earth or muck. The former if well made, will furnish a fine, smooth, hard track, in all weathers; the latter will be cut into mud-holes and ruts from six inches to two feet deep; and sometimes prove nearly impassable. When hard and soft material are crudely mixed together, as we sometimes witness where large stone are thrown into heaps of muck, the mixture becomes intolerable.

Could we see the immense assemblage of broken and worn-out wagons, mud-splashed, injured and broken harness, and sprained and lame horses, (enough to fill any ten-acre lot,) which the bad roads throughout the country annually occasion, a strong impetus would certainly be given towards improvement.

Where a uniform, solid hard-pan is found a few inches below the surface, or even at the depth of a foot or so, the cheapest way to make a good road is to scrape or cart the soft top soil to manure the adjacent fields, and then make the denuded surface into a smooth track. But where this cannot be done, an artificial road made of broken stone or gravel, is usually resorted to. A very common practice is to draw the loose and scattered stones from the fields to form a bed of proper width, and then cover this with gravel; or if gravel cannot be had, with earth. A section of a portion of such road is shown in fig. 1. The stone are heaped up and spread over the surface irregularly, and then a sufficient depth of gravel or earth is placed upon them, to make a uniform surface. This seems to promise well for a time, until the hard corners of the stones, gradually working through the soil or gravel, make it uneven. The jolting of the wheels then begins to loosen the stones more rapidly—many of them work upwards and become partly uncovered; the gravel falls below, and in the course of years the road becomes excessively rough, as shown in fig. 2.

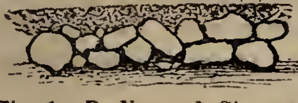
Fig. 1—*Badly made Stone and Gravel Road.*

Some years ago a road was carefully constructed at great expense, by first making the foundation of block stone or very thick flagging. On this a coating of gravel was placed, giving it a handsome finish; (fig. 3.) For a time it promised everything that was desired. But three combined causes soon began to operate to injure it. When the earth below became soaked with water, it was too soft to sustain the superstructure. The action of frost increased the difficulty, and the tumbling of heavy wheels above gradually jolted the blocks from their places. In the course of years the solid bed of block stone became entirely broken up, and some of them were turned on edge, as shown in fig. 4.

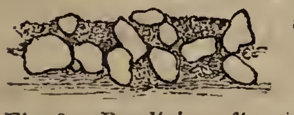
Fig. 2.—*Result in after years.*

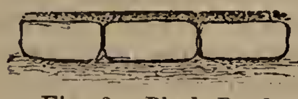
Fig. 3.—*Block Road.*

Now the question will at once arise, how are these formidable evils to be remedied? There are two ways—one is expensive, the other comparatively ceap. The first is the McAdam road—formed of a deep bed of small broken and angular stone—which, by the rolling of wheels, becomes compacted and cemented together, and forms a solid immoveable mass. This road requires a large expenditure of money to construct properly. Many poor ones are made, which do not deserve the name. The other road is the Telford. By using the larger portion of the stones unbroken, much expense is saved. By arranging them as shown in fig. 5, they are held to their places, and do not work to the surface as exhibited in fig. 2. All the rounded and loose stone which are found scattered over farms, (which are better for their removal,) may be used for constructing Telford roads. As none of them are absolutely spherical, and nearly all have a thin and a thick end, being somewhat wedge-shaped, the larger end is placed downward, and the smaller upward, as represented. By selecting them according to their size, the larger ones may be placed in the center of the road, and the smaller ones, by gradual diminution, towards the sides. Coarse gravel, or what is still better, small broken stone, is then rammed between them. The whole surface is then covered with similar but finer material, and the road is finished, as shown in fig. 6. When loaded vehicles are driven over this road, every successive wheel crowds the broken stone more firmly between the stone wedges, and the whole becomes a solid and immoveable mass. It is impossible for the stones to work to the surface, the larger ends being down.

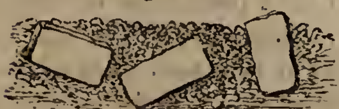
Fig. 4.—*Final result.*

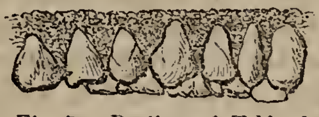
Fig. 5.—*Portion of Telford Road.*

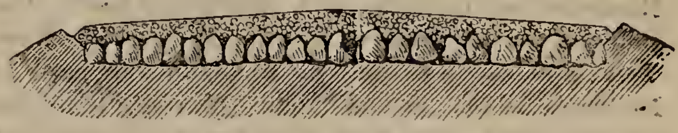
Fig. 6.—*Section of Telford Road.*

If those who employ stone for making road beds, would take the additional care to select and place the stones in this way, instead of throwing them into a careless and promiscuous heap, it would ultimately result in great economy.

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The Potato Rot.—In one of your recent Foreign Notices, Baron Von Leibig is quoted as high authority. And so he is; but we who plant and cultivate and dig our own potatoes, would rather have facts than theory, even though emanating from the great chemist. The day before yesterday I dug my potatoes, which I had planted and cultivated with my own hands. There were three varieties—Prince Albert, Peach Bloom and Baltimore Blue—all on the same half acre, and planted the same day, and treated precisely alike. The Prince Albert (white) and the Peach Bloom, color well described by its name, yielded enormously, with scarce a trace of disease. The Baltimore Blue, a long potato, and of a dark blue color, yielded also largely, but more than half were overgrown with the fungus, and nearly all rotted or rotting. That this disease is a fungus I think admits of no doubt, and no doubt the phosphates and potash are good, perhaps the best manure for the potato; yet variety seems to have something to do with it—whether color, vigor of growth or time of ripening, remains for future investigation.

Flowerdale Farm, Illinois, Oct. 27th. Geo. W. Minier.

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Circumstances are the masters of a weak will and the ministers of a strong one

APPLES FOR MARKET.

Judging from the frequency of inquiries on this subject, there is no information which land-owners more desire than lists of the best varieties of market apples. After all the discussions and reports of successful experiments, orchardists are adopting the opinion that for long-continued and reliable profit, winter apples promise as well as anything yet fully tried. An orchard, well selected and under good growth, may be looked to for yearly returns with scarcely a failure for a life-time. It is not liable to the disasters, in the form of fire-blight and cracking, which befall pears, and does not require the vigilant attention, management in culture, and skill in packing and marketing needed for strawberries. Owners of apple orchards would, however, find it to their profit and advantage if they would devote more attention to them — giving them some occasional pruning, better culture, thinning out the defective specimens, and selecting and packing the finest fruit only for especial market. A high reputation, once established and maintained, would enable them to sell at high prices, and to find a ready market during abundant seasons, when fruit of medium or poor quality could not be sold.

In answer to repeated inquiries, we mention as the three best winter market varieties, the Baldwin, Rhode-Island Greening, and Roxbury Russet. The Baldwin is the greatest favorite in Western New-York, and succeeds well in Michigan and parts of Northern Ohio. For abundant bearing, from the time the trees have been set three or four years till they are more than half a century old, nothing has been found to equal it. The Rhode-Island Greening stands next, and is scarcely inferior in value. It does not bear so early, but the tree is hardier, and the fruit of more uniform good quality and fairness of appearance under all the varying influences of management and seasons. The Roxbury Russet is not so productive as either of these, but its keeping qualities, rendering it valuable for spring shipping to cities, at high prices, have induced some orchardists to place it first on the list for profit.

None of these three varieties are of the highest excellence in quality, although they will doubtless be always accepted so long as human beings are fond of fruit. It must be admitted that the public taste is becoming gradually educated to a higher standard. Many large orchards of the Baldwin have been planted, to the exclusion of all others. Purchasers will not be satisfied with these alone—they will look to more delicious sorts for supplying their tables. It will be prudent, therefore, for planters to set out a few other varieties. There will be some difference of opinion what these should be ; the best way will be to form moderate plantations of several of the best, and observe in the course of years which give the most satisfactory results. Among these we recommend the following :

Northern Spy—a tardy, but ultimately a good bearer, requiring, occasionally, some thinning out of the smaller branches, and cultivation sufficient to produce annual shoots a foot or more in length—otherwise the fruit will be small as the trees become older, marked with patches of black fungus, and sel at a diminished price. The Northern Spy is a tender apple, easily bruised, and must therefore be carefully packed. It keeps into spring, and if well managed will usually sell for more than triple the price brought by Baldwins and Greenings.

Peck's Pleasant.—This is a large, smooth and fair apple, of excellent quality, and when well known will be much sought for, for early winter use.

Jonathan—a slender and crooked grower, and hence disliked by nurserymen ; this is one reason why it is so little cultivated. It would answer well for regrafting orchards, or for setting on natural trees. It is a great and early bearer, the fruit beautiful and excellent in quality, although of rather small size. When well known it would doubtless be much sought for to grace tables in cities.

Esopus Spitzenburgh is perhaps the highest flavored of all apples. It is widely known, and although its cultivation has been neglected on account of the tenderness of the tree, as well as some uncertainty in the crop, it may yet be much sought for, for its excellent quality.

Tompkins County King.—This has succeeded well in Western New-York, but is less valuable or fails at the West. It is a strong grower, and usually a good bearer, although producing less crops than the Greening and Baldwin. The fruit is large, showy, and fine in quality, and sells at higher prices than the two last named.

Wagener is a smaller fruit, but possesses great excellence of quality, and is often quite handsome in appearance. It is well worthy of considerable planting by way of experiment.

The *Swaar, Newtown Pippin* and *Red Canada* stand high on the list for excellence of quality, but the defects on the surface of the fruit are a serious drawback to their general culture.

In large portions of the Western States, the *Ben Davis* proves the best market apple.

There are several other varieties regarded as favorites by different cultivators, and we would be glad to receive the opinions of those who have given them a full trial as to their relative value.

STRAWBERRY CULTURE.

No fruit has given higher and more uniform profits, all things considered, than the strawberry. A greater return has occasionally been received by the sale of Delaware and other fine grapes ; but a large outlay has been required in these instances to place the vineyard under way. Our readers are well acquainted with the great success of J. KNOX of Pittsburgh, and with the fact that should not be forgotten, that his success is largely owing to the excellent and thorough culture which he gives his plantations, and to the care, system and elaborate skill used in picking, assorting, and packing his fruit for market. We observed a few weeks since in looking over a Pittsburgh paper, containing a list of revenue tax-payers, that his revenue was marked over $12,000 for last year. This is doing well for a plantation of some 50 acres. In a recent conversation with him on this subject, he stated that $8,000 of this sum were received from the sale of strawberries alone ; and that, but for the unusual and severe frost early in the season, he would undoubtedly have received $15,000 for them. We have not known an instance where a strawberry plantation has been subjected to good management, including clean hill cultivation, and the prompt excision of runners, that has not afforded a handsome profit. Proximity to a good market is always desirable; but so tempting and delicious are the best grown strawberries that they will manufacture a market in almost any place. We have had occasion to examine a number of instances the past year where strawberries of the best varieties have been raised by the management just alluded to; and in these cases the sales have amounted to about $1,000 per acre. The cost of land, culture, superintendence and marketing, were variously from $250 to $500 per acre—leaving a net profit of $500 to $750. This net return may doubtless be relied on in all cases for some years to come, if the business is managed with the best experience and skill, and city markets are selected. The inquiry may occur, " Why do not many rush into the business and overdo it?" The answer is, "Many actually do enter it, but so rare is the appreciation of the best management that scarcely one in a hundred gives his plantation the attention it should receive, and as a consequence his receipts are moderate or less in amount."

Implements at the N. Y. State Fair.

We make the following extract from the report of our correspondent, X. A. Willard, on the machines and implements exhibited at the late State Fair at Utica:

Hardee's Horse-Power and Thresher.—This machine is a combined railway horse-power, thresher and cleaner. The horse-power differs from others, by having a reel at each end of the bridge, and by having large wheels in which the bridge moves, thereby giving more power than smaller wheels. This power is well built.

The thresher and cleaner has very large capacity for separating the grain from the straw, and also for cleaning, having sieves of thirty-one inches in width and five in number, adapted to different kinds of grain, with side-shake as in ordinary fanning-mills.

Wheeler & Melick's Horse-Power and Thresher.—The new improved endless chain railway, is an improvement in this class of machines. The traversing wheels run upon steel pins, dispensing with iron rods running across the power, causing the power to run much more easily. The link is so constructed as to prevent the wheels from rubbing against the frame of the machine, thereby reducing the friction. An improvement has also been made in the construction of the sides, being so made, that by opening a small door on each side of the machine, the platform can be easily removed and replaced. The revolving-rake for separating the grain and carrying the straw from the machine, works well, and makes a perfect separator of the straw from the grain.

Cook's Sugar Evaporator.—In this evaporator the sap is admitted at one end, passes transversely across the pan in channels, and discharges syrup continually, or boils in a continuous stream. By means of transverse current the sap is passed over a hot and cool surface, and by that means impurities are thrown out, that could not be done by boiling in a flat surface pan. The number four size works off from sixty to ninety gallons per day.

Plows.—There was a large and splendid collection of plows upon the grounds, embracing all the best and latest improvements in this implement. Among the samples shown we note the following: Mead's Patent Conical Plow, Iron-Beam Plow.

The Union Plow has a subsoil attachment. The subsoil attachment can be raised or lowered according to the depth required, and is a very useful implement for reclaiming old lands, and apparently good and serviceable.

Branch Beam Hilling Plow, is a double mould board plow with two sets of wings, that are put on to extend the length of the mould-board for hilling purposes. By removing the wings and breast-plate in front, a coulter is attached for rooting out quack, depositing it behind the plow. The plow is constructed in parts, so if breakage occurs, parts may be supplied. By removing the breast and wings it answers for first time going through the land. This is a new and ingenious device, and we should judge would be very useful in hoeing. It is said by those having used it, to be a great addition, a hoe hardly being necessary when the machine is in use. Price $10.

Revolving Land Side Plow.—The object of this plow is for all kinds of work, the adjustable mould-board serving the purpose of plowing sod or stubble. The plow rides upon the revolving land side. This implement took the silver medal for plows embracing a new principle. Price $12.50.

Swivel Plow.—This implement has a convex mould-board which gives a thorough pulverization to the soil, with light draft and freedom from clogging. The beams are long, which gives it a steady motion. It took first premium.

Universal Plow.—This has a convex mould-board, or rather two, one for sod and one for stubble, and has in addition a skim plow which turns it into a Michigan plow, thus making three plows in one.

The Swivel or Side-Hill Plow has an adjustable coulter for throwing it in position on either side. The clevis is reversed to make the draft light, as it is thrown either side. It is a good implement.

Corn and Bean Planter.—It plants two rows at a time, and is so constructed as to make its own furrows, depositing the seed, crossing and rolling down, and finishing the planting in one operation.

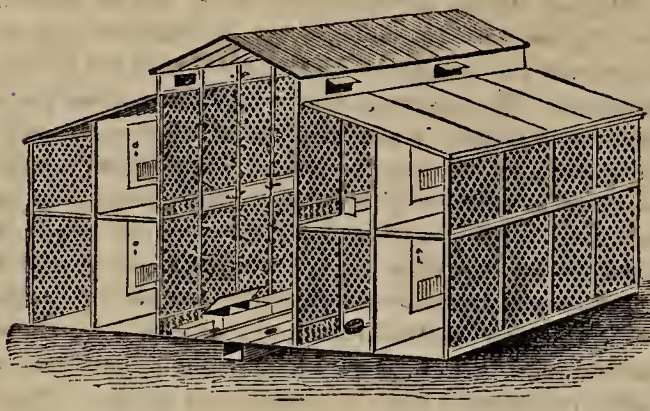
Nevins' Combined Horse Hoe Planter and Potato Digger.—This machine plants corn, beans, potatoes, and broom corn, and all seeds that drop readily. The machine ridges the ground, and plants the seed in the ridge as fast as a horse can walk, and by a change after the planting is done can be turned into a horse hoe. By another change it serves as a potato digger, turning out the tubers where there is an average crop, at the rate of two to three bushels per minute.

Wheel Corn Plow and Cultivator.—This implement is designed for plowing out corn, beans, carrots, or any crop grown in hills or rows, also for furrowing and cultivating among hops. It is arranged on wheels with cam levers and catches on each side to adjust it to any desired depth. It has a seat for the operator to ride, and by taking out the cultivator teeth and putting in plows, it becomes a gang plow, useful for light work, turning in grain or cultivating. Price $65, including teeth and plows.

The National Poultry Company, England.

Having recently visited the buildings erected by the National Poultry Company at Bromley, Kent, we are desirous of placing the result of our inspection before the readers of the Field. The company has been formed for the purpose of carrying on the business of breeding and fattening poultry on a large scale in buildings specially erected for that purpose, so as to secure an even temperature throughout the year, and protection from the weather, with perfect ventilation.

These buildings consist at present of a poultry establishment, 360 feet in length, with a corridor down the middle, the homes or runs for the birds being on either side. The fowls are placed, according to their breeds, in compartments having closed and open runs.



The engraving shows a cross section of the building, and explains the arrangement and construction of the homes or runs. Each closed run is twelve feet in length, three feet in depth (from front to back), and six feet six inches in height. It contains perches and a short fowl-ladder for the ascent of the birds. The floor of these runs is covered with a deep layer of dry pulverized earth, on which the manure falls, and which acts as a most efficient deodoriser. At the back of each closed run is an open run of similar size; this it is proposed to cover with a layer of ordinary farmyard straw manure, so as to afford the fowls exercise in scratching for food. The fountains are placed in the inner runs, and are raised on a shelf, so as to prevent the fowls scratching the dirt of the run into the water. The feeding-troughs are on either side of the long corridor, and, with the laying-boxes, occupy the entire front of each run. Over the run for the large fowls are other ones for the young chickens; these are of the same length and depth, differing merely in being less in height. The entire length of the building is constituted of a repetition of exactly similar compartments (two only being shown in our engraving), making up a total length of 360 feet or 120 yards.

The interior of the corridor is to be used as a vinery, the vines being trained under the glass roof. At one end of the building is an excavation containing a furnace; from this an air-flue proceeds under the floor of the central corridor along the entire length of the building. In winter this will furnish a constant supply of warm pure air, which will ensure the efficient ventilation of the house.

The "homes" are intended to accommodate seven fowls in each, but at present the building is tenanted only by 300 to 400 birds. The specimens of Houdan Crevecœur and La Fleche fowls are of very high excellence; we have never before in England seen such good specimens of these breeds. The birds have been in confinement about three months, and although now mostly in moult, are in admirable condition—a state of things that we attribute partly to the really judicious system of feeding, but more particularly to the employment of the dry earth in the runs. This has the effect of entirely absorbing all odor, and renders the air of the building purer than that of any other poultry-house we have ever before set foot in.

The English fowls are as bad as the French races are good. A more rubbishy set of mangy-looking Cochins, under-sized Dorkings, and pinch-combed Spanish hens, we never saw in any place where good poultry were supposed to be collected together.

The chickens in the building are comparatively few in number, only a small number of the upper compartments being now tenanted. This arises from the fact that the building is not yet completed, and the operations of the society can hardly be said fairly to have commenced.

The ground upon which the building stands is about six acres in extent, and it is proposed to cover it with ranges of houses similar to the one at present erected; they being placed 60 feet apart.

In order to render the whole concern as self-supporting as possible, the intervening space between the houses is to be cultivated as a market-garden, the fowls supplying abundance of valuable manure to the gardens, and receiving in return the trimmings of the green crops, which will be minced up with the food. Animal food will be supplied in requisite quantity, and grain and meal in due proportion.

The experiment differs from many that have been previously tried; instead of aiming at keeping a large number of fowls at large in a moderate space, it perfectly secludes each set from the others. As far as the experiment has been tried, it appears to have been perfectly successful. The building is sweet and wholesome, the air pure, the fowls in good condition, and laying very freely when the time of year is taken into consideration.

The young chickens running in and out of the coops in the garden ground are strong and vigorous. Whether they can be developed into vigorous pullets and cockerels by the system adopted remains to be proved, and we shall watch the progress of the company with great interest.

The whole arrangements have been freely thrown open to our inspection in the most obvious good faith, and without pledging ourselves to the success of the scheme, we can safely say that if poultry-keeping on a large scale in a limited locality is to be made to pay by any management whatever, it will be by the system pursued at Bromley.—*London Field.*

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THE LAUNDRY.

BY A HOUSEKEEPER.

Materials for Washing.—We proceed to give, concisely as possible, the directions for manufacturing these at home, beginning with the ash hopper. These are made in various ways. A strong hogshead, that will not leak, makes the best. Set up around it, on the inside, some blocks about 18 inches high. On these lay some strips of plank, with interstices of an inch. On these lay a thick filter of straw. Then proceed to pack the hogshead full of strong ashes, sprinkling and ramming them as you go. Fill within six inches of the top of the barrel with ashes. There should be a faucet near the bottom of the hogshead, and the hopper should be set on blocks.

After filling let it stand a week or more. Then commence tending it with boiling water. You may let water stand on it until it begins to drip freely; then only throw on from time to time water sufficient to keep it dripping steadily. If you use a hogshead, you will draw off daily what lye has been collected in the bottom. Barrels, a large good box, or the conical-shaped hopper found in almost every farm-yard, answer well, but had best be set on a large trough, with a bottom sloping down to the end, which juts out from under the hopper. This trough collects all the lye without waste, and having a lid to close over it, preserves its strength. When the strength of a hopper begins to be exhausted, it should have some strong lime thrown on the top, say a peck to eight bushels of ashes. If you like to do up things summarily, keep some lye barrels and get down as much lye as will make up your year's soap before you begin boiling. Soap grease may be used up in the state in which you gather it, but soap is far nicer if you will boil the soap grease in weak lye. The grease will float clear on the top; when cold it can be cut off in cakes, and the bones, skins, lean flesh and so on will be a sediment good for your compost heap.

Cold Soap.—Have in a kettle or strongly hooped barrel, that will not leak (lye is very searching), filled with clear lye, strong enough to bear an egg, and clean soft grease; mix enough to fill your vessel. To six gallons of lye allow one gallon of grease. Set the vessel fairly in the sun, stir the contents every day, and if after a week it is found too thin, stir in a little more grease. This soap will be made in about one month of summer weather.

Soft Brown Soap.—When the boiling lye will strip a feather, put one and a half pounds of soft grease to a gallon of lye. When thoroughly incorporated, dip in another feather; if it barely eats the down, there is enough grease in it. Boil it until it is as thick as you like it when cold.

Hard Soap.—When the boiling lye will strip a feather clean, put into two gallons of lye one and a half pounds of clean grease. Boil it (trying whether it has enough of grease with a feather) until it becomes very thick; then throw in a pint of salt to every four gallons of soap. Boil it a while longer; set it off to cool. When hard cut it out in bars, scrape off the sediment from the bottom, and put it on a shelf to drain. The lye, &c., at the bottom of the kettle answers to do rough scouring, but is more useful on the garden.

California Soap.—Five lbs. white bar soap or yellow will do; four lbs. sal soda, one-half lb. borax, one ounce of ammonia. Dissolve these materials in five quarts of water. When perfectly dissolved pour the liquid into seven gallons of soft water and mix thoroughly.

This soap is said to be equal to any wash mixture—very searching, but not injurious to the hands.

Clothes should be put to soak in suds made of this mixture over night, and after proceeded with according to directions, under English receipt, which will be given in our next.

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Planting Out the Arbor Vitæ.

Messrs. Editors—Allow me to say a word in answer to the inquiries of "Arboretum." I have furnished many thousand of cedars for nurseries, to be taken to different places. They leave here with the name of cedar; after a few years they are sold for Arbor vitae; I suppose both names are correct. I think if the soil suits them no particular preparation of the ground is necessary, for they grow in the cold, wet swamp muck, and upon the driest, light, thin soil upon the rocky ledge. I think they do best to remove them late in the fall, although there is no difficulty in removing them early in the spring, and trees may be safely removed from six inches to three or four ft. in height. Cattle will not trouble them at all, except when the ground is covered with snow. I have clumps of low trees that will defy the passage of cattle. I have no long ranges of hedges, but I regret it much that my attention was not called to it years ago. This fall I intend to set a long stretch of them on the north side of an east and west half wall that is banked up, and this is the side that is in pasture, and there is no trouble of having them grow close to the wall, or anywhere on this sloping bank. By covering the lower limbs they will strike new roots any distance from the main tree and form new shoots, or the limb will make another tree, being still attached to the parent stem. When grown separately in the open field they make beautiful cone-shaped trees. I should get rich entirely too fast if I should get the prices you mention. As to pruning, I like the article on page 127, current vol.

Any person passing through this village can see good specimens of trees, growing without any culture, by looking out of the car windows on the left hand side going west, and taking a view of the sides and top of the bold bluff that lifts itself up so grandly on the south side of the river. There is the home of the Arbor vitae.

Little Falls, N. Y. S. S. WHITMAN.

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CEMENT PIPE FOR CARRYING WATER.

Eds. Co. Gentleman—I frequently see inquiries in your paper for the best pipe for conveying water. I laid a pipe in 1854, and after thorough investigation adopted the hydraulic cement pipe made by the Water and Gas Pipe Company of Jersey City, N. J., and find it to be perfect in all respects, and has caused me no trouble. It is made by coating tin or sheet-iron tubes, 8 or 10 feet long, with cement, and as they are laid in the ditch, covering the outside and joints with the same material; a sleeve some four inches long and an inch larger in diameter than the pipe, covers the joint, and the space between this sleeve and the joint well cemented; the whole joint is then well covered with cement. Another, and I think better, plan of making the joints, is to have one end of each pipe funnel-shaped to receive the end of the adjoining piece, the space then filled with Roman cement, and the whole well coated with common cement.

Pipes of this kind properly made, will stand any pressure ordinarily wanted, are perfectly pure, and not corrosive. Iron pipe is subject to rust, which will in some cases entirely close the pipe. Lead is dissolved by some kind of water, and honeycombed by some kinds of earth, and block tin is by no means always reliable. I would lay no other kind than cement if furnished to me free, where the purity of the water is important. David Lyman.

P. S.—Let your Morristown correspondent see this pipe at Gordon Burnham's, Esq., of his town. He laid his in 1853, and recommended it to me.

Middlefield, Conn., Oct., 1865

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Agricultural Exports.—The following table shows the exports of our leading articles of domestic produce from the port of New-York, for ten months to the close October, in each of the years named:

First Ten Months.	1863.	1864.	1865.
Beeswax, lbs.,	147,129	422,454	187,044
Breadstuffs:			
Wheat Flour, bbls.,	2,170,405	1,713,379	1,138,151
Rye Flour, bbls.,	5,055	2,667	2,228
Corn Meal, bbls.,	112,783	94,649	108,495
Wheat, bush.,	13,664,989	11,842,820	1,823,935
Rye, bush.,	416,249	453	170,364
Oats, bush.,	118,974	39,310	67,509
Barley, bush.,	52.439	150	……..
Peas, bush.,	86,499	175,555	50,813
Corn, bush.,	7,445,102	802,966	2,623,008
Cotton, bales,	12,632	25,610	103,898
Hay, bales,	17,668	32,835	28,100
Hops, bales,	21,562	17,739	13,339
Oils—Lard, galls.,	793,548	124,570	23,662
Linseed, galls.	14,884	58,577	12,804
Provisions:			
Pork, bbls.,	161,368	119.010	101.276
Beef, bbls.,	33,812	32,276	33,868
Beef, tcs.,	34,473	44,205	43,042
Cut Meats, lbs.,	170,573,369	87,797,888	30,590,163
Butter, lbs.,	13,143,125	11,724,664	9.289,859
Cheese, lbs.,	32,100,933	38,557,711	35,697,023
Lard, lbs.,	107,683,994	49,333,739	20,309,311
Rice, tcs.,	168	4	58
Rice, bbls..	9,266	18,840	17.792
Tallow, lbs.,	35,241,807	28,084,404	14,043,025
Tobacco, crude, pkgs.,	88,385	129,622	129,171
do. manuf., lbs.,	2,585,864	4.412,417	3,646,463

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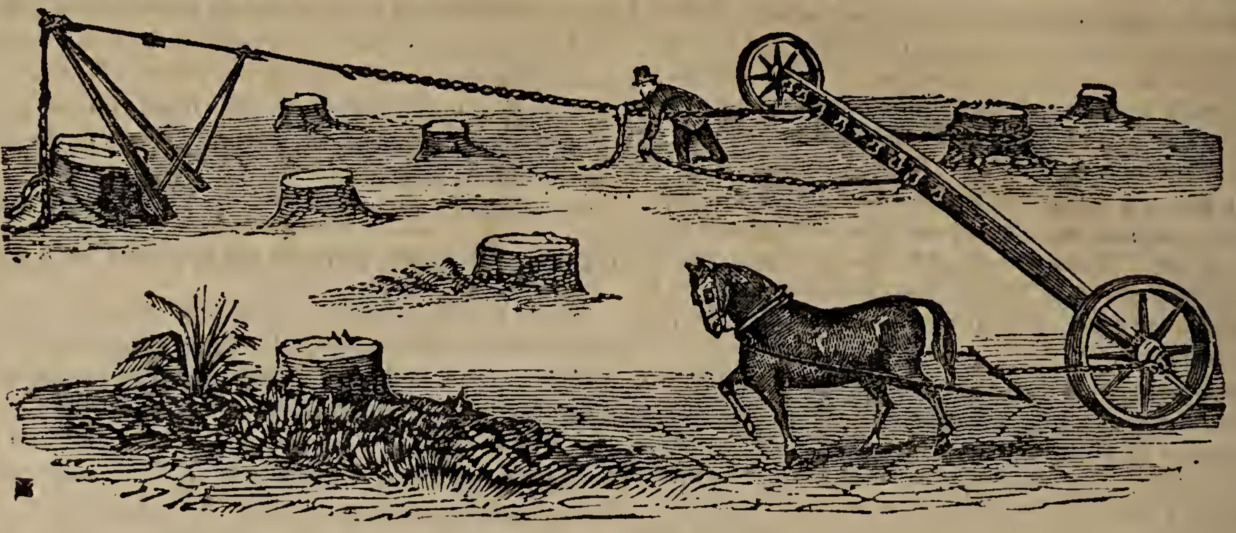
Good counsel never comes too late.



STEWART S STUMP-MACHINE.

Stewart's Stump Machine---the Very Best Stump-Puller.

Messrs. Editors—It is an old saying that it is very easy to do a thing after you know how to do it. This is especially true in regard to pulling stumps, which is a very simple operation when understood, and it requires but little study to understand; but from the frequent inquiries in the Co Gent. in regard to it, or for the best machine to pull them, it appears to be very little understood by many of your readers. Fifteen years ago I was in as much ignorance in regard to the business as any one, but coming into possession of a piece of white pine plain land which had about five hundred trees to the acre, on several acres of it, I was very much perplexed to find the best way to get rid of the stumps after the trees were removed, but as they stood so close together it was very difficult to plow among them—the only way was to pull them or give up trying to cultivate the land. For the last ten years I have therefore had occasion to pull more or less of them about every spring and fall, as my cultivation encroached upon their domain. I can therefore write from a good deal of experience, and what I say may be depended upon; but I should much rather show how the work is done in the field of operation, than to write about it.

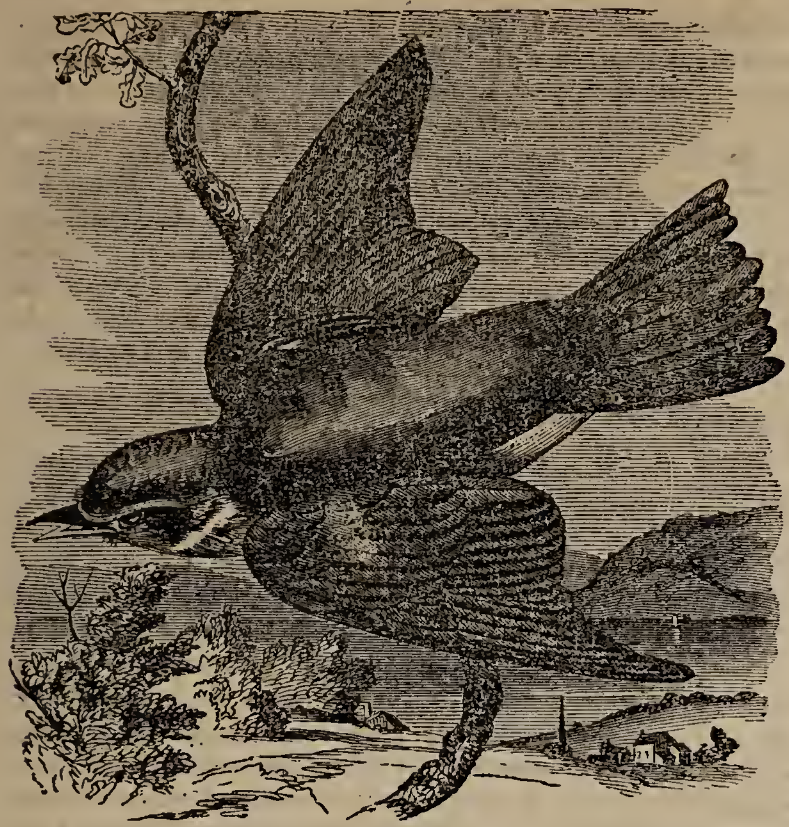
You refer your last querist, E. D. Hix, to the pages of former volumes of the Co. Gent. for description of machines, and to A. Crawford of Warren, Maine, for a circular. Mr. Hix cannot do better than to consult the pages of the Co. Gent.—"Crawford's Stump and Rock Extractor" was on exhibition at the Fair of the New-England Agricultural Society, held in this town last month. It is a hand or man power machine, and will do very well for lifting and removing rocks, but I should about as soon think of drawing a breaking-up plow by a hand-power machine as to pull stumps by the same means; of the two, plowing requires much the less power.

Of all the many stump-pullers that I have examined, read of, or tried, I do not believe a better machine for pulling large stumps has been constructed than "*Stewart's Patent Stump Machine*," which is very well illustrated by a print in the Co. Gent. for April 24th, 1856. The machine was patented in 1840, the patent expired in 1854, so any one has had a right to make the machines since that time. An alleged improvement upon this machine was patented in 1855 and "Willis' Patent Stump-Puller" was cried up by parties as being about the greatest invention of the age for stump-pulling, and was destined to revolutionize the business. So far as ever I could find out, the improvement was of as much use to the machine as "the fifth wheel to a coach," and no more, so far as it concerned stump-pulling.

If you have the type of Stewart's machine, you can not do your readers who are interested in stump pulling, a better favor than by reproducing the print referred to at the present time. The machine is so simple almost any farmer, with the aid of a good blacksmith, could make one from examining the engraving. There is some little obscurity about parts of it, which some explanation of the machine may help to clear up.

The machine is a combination of two good stump pullers, the first in importance and most powerful of the two, being the sheers—set up over the stump to be pulled. Webster's Unabridged defines "Sheers, n. pl.,—an engine consisting of two or more pieces of timber or poles, fastened together near the top; used for raising heavy weights, particularly for hoisting the lower masts of ships." The second one is the double acting lever operated by the horse. Either one can be used for pulling small stumps, when but little power is wanted, or they can be used in combination, as represented in the engraving, when it makes as powerful a machine as can be required. The power of the machine can also be varied at pleasure by altering the distance of the chains attached to the lever from its fulcrum, and by setting the feet of the sheers nearer to or further from the stump to be pulled. With one of the large machines with a twenty foot lever and a fifteen foot sheers, *one horse* can exert a power on the stump to be pulled of *three hundred horses*. In fact, the power of the machine is only limited by the strength of the material used in its construction.

Now, Messrs. Editors, if any of your readers, interested in stump pulling, can not *see into* this machine plain enough to make and use it, let them make known their difficulties through the columns of the Co. Gent. and I will do my best to make the subject plain to any one's comprehension through the same medium, but, as I have no "axe to grind" on this machine, I do not wish to have my privacy intruded upon—therefore, I am only a Stump Puller.



THE BLUE BIRD---*Sialia sialis.* BAIRD.

The Blue Bird is one of the best known of our birds. It is he who first informs us of the approach of the long wished for spring. He comes to tell us that cold, stormy winter is over and spring has come. Under such circumstances is it surprising that he should find a warm welcome?

He arrives about the middle of February, or the beginning of March, according to the lateness of the season. Often he appears as early as the beginning of the second week in February. But as we are often liable to heavy snow storms about this period, he disappears again, and when spring has really arrived comes back to us.

"When he first begins his amours," says Mr. WILLIAM BARTRAM, "it is pleasing to behold his courtship, his solicitude to please and to secure the favor of his beloved female. He uses the tenderest expressions, sits close by her, caresses and sings to her his most endearing warblings. When seated together, if he espies an insect delicious to her taste, he takes it up, flies with it to her, spreads his wing over her, and puts it in her mouth."*

We have no doubt but what some of the female Blue Birds are quite as coquettish as their representatives in the genus *homo*. Well, after having used all the arts that he is master of, and after repeating the oft-told tale, she, with much seeming hesitation and maidenly coyness, consents to make him happy by acceding to his wishes and becoming the wife of his bosom.

The above preliminaries being settled, they, like many another young couple, look around them for a dwelling place. This is soon found—or better still is sometimes provided for them in the shape of a neat little box. But where the owners of the land are not so thoughtful, they content themselves with almost any hole in a tree or stump. Into this they both carry some dried grass, which they gather from some neighboring field.

Having arranged it to their satisfaction, the female deposits her eggs—one a day—with great regularity. She often commences sitting* before all are laid, in which case it is our opinion that she rolls the latest laid eggs immediately under her, where they of course receive the most heat, and therefore hatch at the same time with those laid a day or so previous.

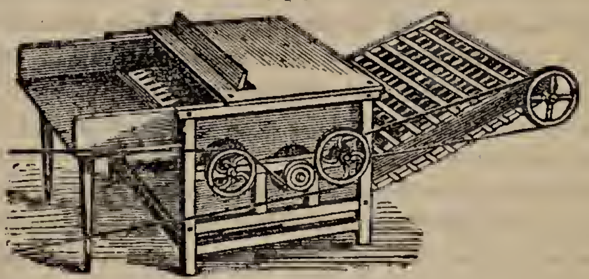
They lay from five to six eggs of a charming pale blue color, which measure on an average seven-eighths of an inch in length by five-eighths in width.

In about two weeks the eggs are hatched, and now begins the "busy season" of the Blue Bird. No rest for him now. Both parents must toil all day long to supply the greedy little mouths which are outstretched at every sound.

Their food consists of nearly all kinds of insects, especially many species of coleoptera. The song of the Blue Bird is a soft, agreeable warble. Listen to what WILSON says of him:

"When all the gay scenes of the Summer are o'er,
  And Autumn slow enters so silent and sallow,
And millions of warblers that charmed us before,
  Have fled in the train of the sun-seeking swallow,
The Blue Bird, forsaken, yet true to his home,
  Still lingers, and looks for a milder to-morrow;
Till forced by the horrors of winter to roam,
  He sings his adieu in a lone note of sorrow."

[A. O.] J. P. NORRIS.



Palmer's Climax Threshing Machine.

The accompanying illustration represents a threshing machine, recently invented by Rev. N. Palmer Hudson, N. Y., which is designed to thresh all kinds of grain, and deliver the straw unbroken, and as straight as it was before the grain was threshed out.

The machine consists of two cylinders about 5½ feet long and 14 inches in diameter, revolving towards each other. The peripheries about 4 or 5 inches apart. One cylinder is armed with spikes, which carry the straw, as it is fed in the machine sideways, down between the cylinders and under the other one, the surface of which is corrugated, and revolves close to a corrugated concave, or bed piece. The concave is adjustable, so that the space may be made so narrow that the smallest head of wheat cannot pass through without being threshed, and not crack the kernels.

The straw is delivered on a revolving carrier, which drops it in straight gavels for binding.

We have seen this machine in operation, driven by a two-horse railway power, and have fed it while threshing rye ; and we do not hesitate to pronounce it as the completest threshing machine that we have ever met with.

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* Extract from a letter from Mr. WILLIAM BARTRAM to ALEXANDER WILSON. See *Wilson's Ornithology* Vol. I, p. 56.

* We say "*sitting*" in the COUNTRY GENTLEMAN, but how we would be laughed at, were we to announce in the country that such and such a hen was *sitting!* And yet it is undoubtedly proper. Strictly speaking, nothing *sets* except the sun, (even the eldest *son* has to *sit*,) and yet it is so familiar an expression to say that a hen is *setting*, that it is hard to break one's self of the habit.—J. P. N.

When feeding it, we threw in large handfuls diagonally, and nearly endwise, but the straw all came out quite straight.

We are satisfied that this machine will thresh faster, with the same power, than an ordinary spiked cylinder, as there is more space for the straw to pass through, and the effective force of the power is not absorbed in breaking the straw.

Our experience with threshing machines warrants the statement, that more power is absorbed in breaking and tearing the straw to pieces, when the threshing is done with the ordinary spiked cylinder, than is required to thresh the grain. Palmer's thresher obviates that imperfection in machines in the most successful manner. S. EDWARDS TODD.

ABOUT CELLAR WALLS, &c.

Since we published an article in the Co. GENT., on the subject of Concreting for Building purposes, we have received numerous inquiries on the subject, both by letter and through that paper. Several farmers have been so far interested as to visit my premises and examine this style of building. All who have had experience with such buildings express themselves highly pleased with them.

Farmers have learned that they can put up such barns and out houses as are needed, without going far for materials, or employing other help than such as are usually employed on the farm. When built of gravel and lime, and rough casted on the outside, with the roof covered with a preparation of gas tar, there can be no perceptible decay for a generation. For buildings or farm buildings, it answers equally well—is cheaper than any other material to compose a house at first, and requires no oil paint or repairs after finish.

"J. S. S." desires to learn if concrete will answer for a cellar wall. My experience teaches that common mortar will not stand wet and freezing. Even water lime will crumble when exposed to weather. If such a wall can be kept from frost, there is no trouble about its standing. Bank round it, or place boards against it, so as to keep away the frost or wet, and it will answer well. But such work needs to be done in dry weather, so that it will harden as you proceed.

Gravel is much better for the mortar than sand, and all sorts of stone can be laid into the boards on the wall. If you have small stone, it is quite as well to fasten your boards to the wall, as heretofoer described, and spread through a layer of the gravel mortar, and then pack in a layer of stone, and so progress with the wall as fast as it will harden. This is the way I built up a dwelling-house this season, using blocks for the corners or any other portion of the wall where convenient. The blocks used on the first story were cast in boxes, 18 inches long, 12 high and 10 wide. These were were found too heavy for two men to handle easily.

The second story was raised with blocks alone. These were cast a foot in length and height, and eight inches wide. The coarse stone and gravel was dug up and mixed with the lime; this mixture was poured into the boxes, which were set upon boards or on the ground, allowed to stand about half an hour, and then the boxes were lifted off. If the boxes are made a little beveling they slip off pretty easily. Never allow the concrete to dry in the box. No water cement was used in these blocks, except where we filled some boxes on the corners of the wall, and lifted off at once. Make the mortar thick as it will shovel good.

Granby, Ct. A. L. LOVELAND.

FRUIT TREES AND OILS.

I am exceedingly anxious to obtain from you, through the COUNTRY GENTLEMAN, reliable information as to propriety and utility of using oils on apple trees for the destruction of *bark lice.* I have a comparatively large and productive orchard of old and young trees, but I find these little pests are committing sad depredations. I have been advised to use oils as a remedy by some ; I have been warned by others that oils only partially destroy the vermin, while they permanently injure and sometimes destroy the trees. My investigations, and an examination of the files of the COUNTRY GENTLEMAN, Canada Farmer, and other papers, have left me somewhat perplexed, as the matter seems to be with many yet a vexed question. I am sure all who read the COUNTRY GENTLEMAN and have orchards, will highly appreciate an editorial or letter of correspondence giving in practical and reliable form, the results of the examinations and experience on the subject of those who contribute to your columns.

May oils, as a general thing, be advantageously applied to apple trees for the destruction of these lice? If so, what oils are preferable? Are Parrafine and similar oils, which are sometimes used here, not too penetrative? Would you use the common fish oils? When would you make the applications? May they be applied to *thorn* and other trees invested with these pests? W. *"Hampton Place," K. C., New-Brunswick.*

We cannot recommend the application of simple oils to the bark of fruit trees. If spread over the whole surface it would probably destroy the trees—unless done in winter with some oil that quickly dries, and does not fill the pores. Having never been troubled with the bark lice, we cannot speak from our own experience ; we therefore briefly state some of the remedies which have been proposed. Dr. Fitch recommends leat tobacco boiled in strong ley until reduced to an impalpable pulp, when it is to be mixed with soft soap (made cold, not boiled,) until of the consistence of thin paint, and then applied to the bark with a brush. One application, he states, will protect for two years. The late A. G. Hanford was successful with the application of a mixture of equal parts of tar and linseed oil, applied warm, not hot, early in spring. It does not continue soft, nor fill the pores, but forms a simple varnish, which becoming hard, peels off when the trees begin to grow, and carries the bark lice with it. Strong lye-water, whale oil soap and a mixture of lime, soft-soap, and water, are recommended by Elliott. We would be glad to hear the results of the latest experiments with the different remedies.

Foreign Notices.

Mr. Lawes' Wheat Crop.—We have published from year to year the amount of wheat yielded on Mr. Lawes' experimental field at Rothamsted. This field has been seeded to wheat every season for 22 years; it is divided into plots, of which, during the past 13 years one has never had any manure applied to it at all; on one 14 tons farm-yard manure have been put each year; and on three others artificial manures have been put, alike in their mineral constituents, but unlike in the respective amount of ammonia salts they contained. The yield has been:

How manured each year.	Harvests. 1863.	1864.	1865.	Average of 13 years. 1852-1864.
	Bushels of Dressed Wheat per acre.			
Unmanured, ...	17¼	16	13¼	15½
Farm-yard manure,..	44	40	37⅛	35¾
Artificial manure,....	53⅝	45¾	40¼	37⅛
Do. do.	55⅝	49⅞	43⅜	38⅞
Do. do. ...	55½	51¼	44	35¾

Other fields at Rothamsted, in the ordinary course of farm management, yielded in 1865, respectively 38, 48, 48, and 51 bushels per acre. Putting all these together, and making an estimate from the results of previous years at Rothamsted as compared with that of all England at large, Mr. Lawes expresses the decided opinion "that the wheat crop of 1865 will turn out to be, in the aggregate, little if any below an average one. And," he adds, "if we would find a period of successive seasons comparable in abundance with those of 1863, 1864, and 1865, we must go back for about thirty years, when the fairly abundant harvests of 1832 and 1833, the splendid crop of 1834, and the again abundant one of 1835, brought down the price of wheat by the end of the last mentioned year to 36s. per qr., notwithstanding the high protective duty then ruling."

Carrying Meats across the Ocean.—The London Morning Post, in the present scarcity of meats in Great Britian, and lack of sufficient supply from European countries, advocates the importation either of dressed carcases or living animals from Canada. The case is thus stated:

"The average price per pound of butchers' meat in the markets of Quebec, Montreal, Ottawa, Kingston, Toronto, and Hamilton, in 1864, was: Beef, from 6 cents to 8 cts. per pound; mutton 5 cts. to 8 cts. per pound, and veal and pork, from 6 cts. to 10 cts. per pound. As to the practicability of bringing across the Atlantic dead meat in a marketable condition, there is little reason to apprehend difficulty, when we know that the tables on board the ocean steamers are all the year round supplied daily with fresh meat of the best quality. The average duration of the voyages of the Canadian mail steamships is between nine and ten days; and it has been ascertained that meat, when properly packed and forwarded in vessels fitted for the purpose, will keep a fortnight or three weeks. Should the first experiment of bringing to our markets live stock or dead meat from Canada prove successful, it is impossible to estimate too highly the importance of the trade, both to Canada and ourselves."

Grain and Meat.—"If the scythe were supplanted by sheep's teeth," writes Mr. Mechi, "John Bull would no longer have to complain of short supplies and dear meat. The ordinary calculation is that 7 lbs. of grain will produce 1 lb. of meat, nett butcher's weight. As wheat is under 1d per lb., and meat is at 8d to 9d, it requires no conjuror to show that feeding will pay."

Roots and Stock Raising.—The Canada Farmer well remarks:

It is impossible to keep stock advantageously without roots. This fact, and the fact also, that roots play such an important part in a judicious rotation, ought to induce more attention to them. Turnip culture has been pronounced the sheet anchor of British agriculture. It has wrought little short of a revolution in farming matters in the old country, and it will do the same here, if it can be made general. Turnips do not require to be sown until the hurry of spring work is over, and thus a season of comparative leisure may be appropriated to this important crop. They are a pretty sure crop, and, on good land, highly productive and remunerative. In this country they cannot, as in Britain, be fed on the ground, but require storage. They, however, stand a considerable degree of cold, and keep well either in pits or moderately well-protected cellars.

Mr. Johnston's Root and Clover Crops.

Messrs. Tucker & Son—After a long silence, I write to say that last spring I put a fence around a small piece of land in the field on the west side of the highway as you come from Geneva. 1,880 feet I planted with mangolds. I took them up the other day, cleaned the earth from them thoroughly, weighed, and found them to weigh 2,880 lbs. Now if 1,880 feet give 2,880 lbs., what will one acre give—say 43,560 feet? I make the amount per acre, 33 tons, 730 lbs. I am not so sure in figures as I was when young, but think I am right. I allowed 2,000 lbs. to the ton. They were planted in rows 18 inches apart, and about 9 or 10 inches apart in the rows. My man John said, 'Sure they would never grow that way at all—in Ireland they put the rows 30 inches apart, and 12 in the rows." Now he says he never saw more grown on so small a piece of land in Ireland itself.

I planted in the same enclosure, the same amount of land in cabbage, and a like amount in turnips. The cabbage was a partial failure, owing to the grasshoppers attacking them, and was not over half a crop. The turnips, (Swedes,) were almost a total failure; the fly attacked at first and the grasshoppers afterwards; but nothing troubled the mangolds. Mangolds are the only root crops that I can grow profitably here, (potatoes excepted.) Both last year and this, I never raised better potatoes, and none have rotted. The Chilis have always done well with me. I had some Ohio Pinkeye Rustycoats, which are an excellent kind and very prolific. The Peach Blow also does well with me. This year they gave the largest yield, but they were all the best crops I ever raised.

We have had remarkably fine weather since the last of August. I never saw more grass at this season than now. All crops were good, apples excepted—they were a very poor one hereabouts. Clover seed will be a light crop, owing to the blossoms being destroyed by the grasshoppers. I cut six acres first crop on 17th June; the second crop grew right away, and got forward early, and seeded very well—13 acres I mowed some 10 days later, that was not worth the cutting for seed. The only way to get seed in grasshopper seasons, is to cut the first crop very early; then the second crop gets in blossom before the grasshoppers are large enough to hurt it much. I took eighteen large wagon loads of hay from the six acres, and then cut at 1st September a good crop of seed that I think will give near five bushels per acre, but may not over four.

There is a great cry of scarcity of cattle, but there have more droves past here since last June, than in five years previous—a large majority of them from Canada, and of the worst class of cattle, *generally*, I ever saw. They surely got none of those turnips we read about—150 passed here yesterday, part of them were the best I have seen come from there.

Near Geneva, Nov. 1, 1865. JOHN JOHNSTON.

THE CULTIVATOR.

ALBANY, N. Y., DECEMBER, 1865.

☞ At this season of the year, the suggestion to organize FARMERS' CLUBS has been so often repeated that many are doubtless weary of all allusions to the subject. But every year there are some new readers to be reached, and circumstances change with the old, so that what is at one time impracticable, becomes more easy at another. The main end, as was said editorially in these columns, a dozen years ago, is only to excite sufficient interest to call the farmers out, and, by proper organization, to form a joint stock company with the sum total of each man's wisdom for its capital. Almost every man will have acquired something, during the past season, during the year, or, at any rate, at some time in his experience as a farmer, which has escaped his neighbors. Draw it out for the benefit of others! If there are half-a-dozen, only, who are wide awake enough to make a beginning, let them agree to come together quite informally once a week, or two or three times in the month, from now till spring, for a good farmers' talk. As the number increases there will be more need of a certain amount of form, to avoid confusion and ensure the best use of the time devoted to the purpose—which we take to be the main end of all parliamentary rules. What has been done, what has been read, the opinions and conclusions reached,—on all the wide variety of topics associated in farming,—afford salient points enough for many a winter's discussions.

It is not alone that in this way the results of practice and reading are more likely to be well digested and carefully weighed in the balance,—it is not alone that when one's deficiencies in information on any mooted point are called into notice, he is at once prompted to some effort to remove them,—it is not alone that a habit of thought is fostered and subjects of reflection supplied,—but to one whose position separates him so much from his fellows as the farmer, the mere coming into contact with them at such intervals, is of no small account in tending to lessen his isolation, and in exciting a class spirit or feeling of association, which in other pursuits so often carries weight and influence overpowering his own. The precept of the Greek philosopher, "know thyself" is one that involves the study of others; for a comparison of our views, our acquirements, our faculties, with those of persons having had very much the same opportunities as our own, enables us to estimate more accurately both the strong and the weak points we betray. And while farmer A. may return from a club meeting, rather abashed that B. or C. has excelled him in something, he may also be convinced that in another, neither of his neighbors has studied as deeply or advanced so rapidly as himself. The tendency of a good discussion is thus to strengthen a man in the right course, and to turn him from the wrong. "The member of the club is more than one individual farmer; he is one of an associate body who are pledged to each others' interests, and laboring for the greatest good of the greatest number. He is a public spirited man, and soon learns to attach more importance to his observations, and to consider himself of more consequence in the agricultural world."

As already stated, the forms involved should be of the most simple character. A written constitution should be drawn up, specifying (1.) the name of the organization, and its object—the discussion of agricultural topics and improvement in farming at large; (2.) the sum to be paid into the treasury and other requisites to constitute a membership; (3.) the officers, generally a president, vice-president for each of the school districts or other subdivisions of the territory embraced, secretary and treasurer; (4.) the time and place of meeting—say semi-monthly in winter and monthly from April 1 to December 1; (5.) the duties of the officers and application of the funds, and, lastly, any other points on which those forming the club are agreed as essential to a proper understanding at the outset. Suitable by-laws, to promote regularity in attendance and otherwise best carry out the intent of the constitution, may be agreed upon as they are found necessary.

There are three suggestions which we think might be usefully brought to the notice of existing clubs, as well as embodied in the constitutions of new ones. The first is the holding of a spring meeting as soon as the ground is in order, for a plowing match, at which every member (or some one in his family, a son or assistant,) should agree to compete. The second is, either at the same meeting or the one preceding it, that a display of grains and other seeds to be used for planting should be made, every member again contributing—in order that the best and cleanest may receive an award or commendation, and those in want of good seed may know who has any to spare. The third is that previous to or during harvest, a committee (either of the whole club, if practicable, or any of its officers or members as appointed,) should visit the farms of the several members, and report on the same at succeeding meetings. And a fourth might be added—that more intimate relations should be cultivated with the agricultural press; that condensed reports of of the proceedings whenever of a practical nature (and this ought always to be the case,) should be sent to the nearest or best agricultural paper accessible, for publication in whole or in part, in the judgment of the editor.

Lastly, it may be observed that those who read the same agricultural paper or papers, have thus a common bond interest with one another, and many common subjects of reflection, remark and criticism. Where there are ten or twenty who take the COUNTRY GENTLEMAN for instance, within a reasonable distance of each other, why should they not come together in a sociable way as a "club" by themselves, and, as a part of their regular proceedings, bring the light of their experience to bear upon its contents, and submit the resultant critique for the benefit of others through its columns? We should be especially glad if this suggestion is anywhere carried into effect, and if a club of our subscribers so organized, should also decide upon holding a plowing match or seed-show in compliance with the other suggestions above, will undertake in advance to contribute something toward the prizes on the occasion.

Tobacco Culture.—A meeting of the Connecticut Tobacco Growers' Association was held last week at Hartford,—thinly attended, however, owing mainly to lack of the necessary publicity. Resolutions were adopted in favor of the present system of collecting the Government impost upon the manufactured article, and against the proposal to levy it instead upon the raw leaf. Committees were appointed in the several towns most interested, to assist the secretary in distributing circulars and collecting statistical information. The next annual meeting was appointed for the first Wednesday in January. It was also voted to distribute a circular among tobacco growers, calling for information on the following subjects:

1. The kind of soil most successfully employed by you in obtaining a crop.
2. Your mode of preparing your bed.
3. Your mode of preparing your field for tobacco.
4. The comparative value of different kinds of manures—guano, phosphate, etc.
5. Your time and mode of transplanting.
6. Your mode of cultivation during the season.
7. Your time and mode of topping.
8. Your mode of dealing with suckers, and time of standing between topping and cutting.
9. Your mode of harvesting, hanging and curing.
10. Your mode of assorting and packing after stripping.
11. Which mode of sale affords best satisfaction? Sale in bulk, warehousing, or packing and selling at home?
12. Your mode of dealing with your seed plants.
13. Upon what soils and in what seasons is rust most prevalent?

We should be very glad if tobacco growers in this and other States would favor us with a few brief articles detailing their views on the points above specified, or any others which may seem important.

Going South—Settling in Delaware.—A correspondent sends us a statement as to the experience of several persons whom he has known, in endeavoring to make homes for themselves in Delaware, and thinks that as we have published very favorable accounts of that State, we should also permit our readers to know that this question, like others, has two sides. The substance of his letter, for which we have not room at length, is, as regards farms, that their advantages are overdrawn in the advertisements which frequently appear, and, as regards other pursuits than farming, that the people stand aloof from Northerners and will not patronize them if they can help it. The land and climate, he admits, are good. The advice he gives is that northerners should examine well any farms they think of buying, in person, rather than trust to reports from others; and that those who think of undertaking other kinds of business should first ascertain the disposition of their future neighbors toward new-comers from a higher latitude. Such advice may well be followed, of course, when a change of residence is contemplated to any distant region.

Grapes in Tompkins County.—A correspondent of that excellent periodical the Philadelphia Gardeners' Monthly, states that the shores of Cayuga Lake in the above county, are becoming a great vineyard country. One person is spoken of as intending to plant 30,000 vines next Spring, and—

"Our large-hearted Senator Cornell, who gave to our State a half a million of dollars to found a Cornell University, has begun planting a fruit farm of 3 or 400 acres on the shore of our lake. He intends to plant every variety of grape and fruit that has any reputation, to test its adaptation to our country and climate."

Trotting Horse.—The horse "Sorrel Dapper," owned by J. I. Parsons of Auburn, and which has gained much celebrity as a trotter in Cayuga county, it is said has been sold by Mr. Parsons to Robert Bonner of the New-York Ledger, for $15,000.

Milk from an Alderney Cow.—I send you an accurate statement of the quantity of milk given by a thorough-bred Alderney cow, five years old, for 31 days. The yield I think very large for an Alderney, and I should like to know from other owners of this breed, how it compares with the yield of their cows

From May 19th to June 18th, 1865.

	Lbs.		*Lbs.*
May 19,	33	June 4,	33
20,	32½	5,	34
21,	32	6,	35
22,	33	7,	34
23,	35	8,	31½
24,	30½	9,	31½
25,	29½	10,	33
26,	35	11,	32
27,	32½	12,	30½
28,	34½	13,	31
29,	31½	14,	27½
30,	36	15,	33
31,	33	16,	22
June 1,	35½	17,	31
2,	34	18,	33
3,	35½		
Total yield for 31 days,			1,006 lbs.

It may be proper to add that the feed was grass *alone*.

Yonkers, Westchester Co., N. Y. E. F. S.

Late Autumn Plowing.—In your issue of Oct. 19th, J. W. Clarke, Wis., writes on the subject of early and late fall plowing. Although I cannot agree with Mr. C. in all his reasoning, his facts are indisputable. Late, or perhaps I should say *very* late fall plowing is, in this latitude and longitude, an absolute injury to the succeeding crop, and, in all probability, a permanent injury to the land itself. But we must never forget, on this topic, that the variety or kind of soil, as well as the latitude and climate, must be taken into the account. I hope Mr. C. will write more, and give us his notions of mixing and comminution of soils.

Flowerdale Farm, Ill. G. W. M.

Bone Mill.—Paschall Morris' Rural Advertiser for October, has a cut and description of Bogardus' bone mill, of which several are in successful operation in that city and vicinity. It is said to be "the only mill in the market, capable of grinding the raw bone. There are two sizes of these mills. No. 2 weighs about 600 lbs., is calculated for a two-horse tread power, and is capable of making out of unboiled and unburned bone a barrel of bone dust in twelve minutes. Price in Philadelphia, $215. The large mill, No. 5, is adapted for a four-horse power, and will make a barrel of bone dust in six minutes. It weighs 1,600 lbs., and costs in Philadelphia $510. Extra plates can be furnished for grinding corn and cob."

Filling an Ice House.—The Utica Herald says that the ice-house of L. R. Lyon of Lyon's Falls, N. Y., has not been empty for twenty years, nor has a pound of ice ever been put into it. The building is constructed after the ordinary method, and when it is designed to fill it, a rose jet is placed upon the water-pipe, and as the water comes through it is chilled and drops into the ice-house, where it forms one solid mass of ice.

Cotswold Sheep.—The demand for sheep of this breed, we are informed has been unusually large the present season. Mr. E. Gazley of Duchess County, some of whose sales we have heretofore noticed, and who took several first prizes at the Albany County Fair, has lately disposed of six head to Almon W. Griswold of New-York, who intends trying them on his farm in the State of Vermont—also of a ram and three ewes to F. H. Hibbard of Cortland County.

Honey.—Jean Storms, of Panton, Vt., a bee hunter, obtained recently from one tree, 310 pounds of wild honey.

Agricultural Fairs as Educators.—State and County Fairs have contributed largely to the rapid progress of agricultural improvement throughout the country. Hundreds of thousands have visited them, and have there seen specimens of this progress. They have there learned that their own animals, which they had before confidently believed could not be beaten in the whole land, are left quite in the shade by many which they find on the grounds. Emulation and enterprise are excited, and a rapid improvement takes place everywhere. The same result occurs with implements, domestic manufactures, and farm products generally. In short, the very best farmers—those whose enterprise and skill have placed them far in advance of the majority—here exhibit what the best management can accomplish. These exhibitions thus become places of great inrerest to those who are determined to secure the best advantages; and young people, especially, long remember the lessons they have thus learned, and treasure up with delight the remembrance of what they have witnessed. Fairs thus become powerful educators. Whatever they see that is of an exalting and improving nature, thus elevates the character of the rising people. On the other hand, if anything is admitted that is low and degrading, a corresponding and even greater influence is exerted for evil.

If county fairs make horse racing their chief attraction, young men and boys who attend, will come up as horse-racers—and cigars, drinking, and dissipation will follow. In this way, these public occasions may become positive nuisances. Instead of elevating, they may tend to lead the people directly downwards. If a fair cannot be maintained without resorting to debasing influences to fill treasuries, it would be much better not to have any, for no pecuniary prosperity can compensate the loss of public morals.

But county fairs have not been alone at fault in this matter. Two or more State fairs have admitted to their grounds the present autumn, and have thus indirectly endorsed, exhibitions of fat women, distorted men, idiots as wild men, jugglers, and worst of all, gambling tables. On the grounds of one of the fairs recently held, we counted no less than six of these gambling establishments, within a circuit of five rods; with a false show of fairness, they swindled almost without a possibility of escape, all the ignorant who were allured by the cunning and infamous decoys hovering around them. We were assured that a single table of this kind had "*made*" in one day, no less than six hundred dollars out of the ignorant—and this by the direct cognizance and approval of a State Agricultural Society. We are aware that some, perhaps most of the officers, were opposed to this low business, and that we shall afford them a mite of assistance towards excluding them in future, by these remarks. We ask the few who admitted them, wherein it would be worse to license half a dozen pickpockets and turn them loose in the midst of the crowd—among those who, like the stakers of money at the table, were so indiscreet as to tempt these pickpockets by carrying money about their persons?

It was said that these shows if admitted, would draw many into the grounds, and the Society would profit by their admission fees—otherwise they would fix themselves without the enclosure, and draw the people away from the fair. If the local government could not suppress them wholly, and drive them from the neighborhood, as they have done in many places, the case might seem a hard one. But if a State Fair cannot be sustained without mixing up public demoralizers in the shape of gambling establishments, and shows of a low character, with the exhibition of such articles as tend to elevate and improve the community by improving its agriculture, it would be better not to hold a fair which shall make the degradation of morals one of its necessary objects.

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Sale of Ayrshires and Jerseys.—The sale of the Ayrshire herd of H. N. THURBER, Pomfret, and the Jersey herd of JOHN GILES, South Woodstock, took place Oct. 18, at the farm of the latter gentleman as advertised. From the report in the Boston Plowman, we make up the following abstract of results:

AYRSHIRES SOLD.

Name.	*Age.*	*Purchaser.*	*Price.*
1. Jean Armour,	9 years,	H. C. Gregory, Unadilla, N. Y.,	$175
2. Duchess 2d,	8 years,	M. Willard, Providence, R. I.,	375
3. Susan,	9 years,	H. C. Gregory,	180
4. Rosa,	9 years,	———, Dresden, Me.,	155
5. Brenda,	8 years,	H. N. Thurber,	125
6. Dewdrop,	——,	J. S. Barstow, S. Portsmouth, R. I.,	150
7. Pink,	3 years,	do. do.	160
8. Beauty,	3 years,	B. Harrington, Worcester, Mass,	140
9. Cora,	4 years,	H. C. Gregory,	210
10. Polly,	4 years,	S. Converse, New Braintree, Mass.,	275
11. Effie,	3 years,	———, ———,	280
12. Jeanie,	3 years,	Mrs. H. N. Thurber,	90
13. Leila,	3 years,	J. S. Barstow,	200
14. Beatrice,	1 year,	H. C. Gregory,	95
15. Nell Gwynn,	1 year,	D. Winser, Johnson, R. I.,	75
16. Britannia,	1 year,	do. do.	100
17 and 18. Withdrawn—no bidders.			
19. Strawberry 3d,	calf,	O. H. Perry, New-York city,	75
20. Hebe 3d,	8 years,	M. Pollard, N. Braintree, Mass.,	100
21. Hebe 4,	calf,	O. H. Perry,	55
22. Floris,	calf,	E. D. Pearce, Providence,	80
Bull Harold,	5 years,	Martin Willard,	125
— Ossian,	1 year,	do.	100
— Sinclair,	6 months,	H. C. Gregory,	100
— Rollin,	6 months,	F. Averill, Pomfret,	80
— Ogilby,	6 months,	John Dimon, Stonington,	55
— Dalfill,	3 months,	H. C. Gregory,	55

The sale was conducted by J. R. PAGE. The first five on the list were purchased by Mr. Thurber last spring at the sale of H. H. Peters, respectively for $400, 405, 350, 165 and 145—being considerably higher prices than they brought now—partly owing, probably, to the season of the year, and partly to their condition. The Plowman says: "They had been in milk through the summer, and had evidently suffered from the drouth, few of them being in more than ordinary condition, and many of them below that. Few of them had been halter broken, as they should have been to pass such an ordeal satisfactorily, and this added to the disadvantage under which they appeared."

We have so often had occasion to remark the drawback occasioned at sales of otherwise valuable animals, from these causes—lack of condition and lack of care in halter-breaking, that it is not out of place here to urge, what one would think common sense alone might dictate,—the fact that *first class prices* can never be obtained where animals are half-wild and half-starved. Above all things, any breeder of good stock owes to them and to his own reputation, at least that they should be kindly cared for, by himself or by a competent herdsman, so that they will stand for examination;—without such evidence of gentle treatment, bidders are always shy, even when willing to make ample allowance for lack of flesh, where, as in the present instance, the season has been dry and pasturage poor. Under these circumstances, the prices above named are certainly very creditable to the breed, although low in comparison with those obtained by Mr. Peters.

As to the remainder of the sale, our contemporary remarks:

The sale of Jerseys was remarkable from the fact that all the pure bred cows went to one man, William B. Dinsmore, Esq., of Staatsburg, near Hyde Park, N. Y., President of the Adams Express Co. The highest went at $350, for a cow 3 years old, and others at $310, $300, $300, $255, $225, and so on. A yearling heifer brought $160, and a few grades from $75 to $150. A pure-bred spring's calf sold to H. C. Gregory at $105. Two others went for $95 apiece, another for $80, and a bull calf at $50. The Jerseys sold high as compared with the Ayrshires. They were not so uniform in color and quality as the

Ayrshires, and there were fewer that were desirable for founding a herd of that breed.

Mr. Giles has been a noted breeder of poultry, etc., for many years. We took a look around his grounds to examine the geese and ducks, the beautiful golden and silver pheasants, the Black Spanish and other fowls that were strutting about there, and, after partaking of the ample hospitalities of the place, where the latch string is always out, left under the impression that we had had a real good time and a profitable visit.

Extensive Vineyards.—The interest now awakened in vineyard culture on this side the Atlantic, is illustrated in one or two paragraphs from our last week's exchanges. One of these states that a company at Cooksville, Canada West, have now about forty acres under the grape, and expect to extend the area largely another season. They are just constructing a wine cellar, having "34 arched recesses, in two tiers, each recess to contain a hogshead of 1,000 gallons capacity. These 34 hogsheads, it is said, will be filled with the production of this season's fruit. We understand that another hogshead is in course of construction, which of itself is to contain 24,000 gallons."

Another statement in circulation is to the effect that a joint stock company, with a capital of a quarter of a million of dollars, has been formed in Wheeling, West Virginia, for the purpose of entering largely into the grape-growing business. "The land to be worked is on the Ohio side of the river, near Martinsville, and 50 acres of it are already under cultivation. It is designed to increase the size of the working land to 115 acres."

State Implement Trial.—An Auburn paper is sent us containing a model report on the last exhibition of the Agricultural Society of Cayuga county—reviewing the different departments, and especially the very important one of Implements, at length, with descriptions of those attracting particular attention. The committee then proceed to refer to the Trial of Implements and Machinery to be held by the State Agricultural Society next year, and urge the necessary action to secure its location at Auburn, both on account of the extent of its implement-making interests, its central position, and the facilities it affords for securing the necessary trial fields.

"The simple facts that the Mower and Reaper Manufacturing business of the city of Auburn requires a capital in conducting it of about three million dollars, to say nothing of the permanent investment in buildings, machinery, and stock held over, which would aggregate in the neighborhood of about one million dollars more; also, that Fourteen Thousand Reaper and Mower Machines were produced the present season in Auburn—their production furnishing employment to from six to eight hundred men, and supplying the means of living to from three to four thousand of the population of the city; we regard as a significant iteration of the claims of Auburn to the honor of the Great Exhibition and Trial, and one that will exert its due influence with the Board of Managers of the State Agricultural Society, in determining the question of its location."

Worden's Seedling Potato.—I have sent to-day by express a box of my seedling potato, the third year from the ball. They are long, smooth, light red, fine grained, white flesh, and excellent flavor, both for boiling and baking, and also prolific, and a healthy grower—a few days later than Davis' Seedling. They were grown on a light loamy soil, not rich. All of my potatoes suffered with the drouth. My seedling, being strong rooted, suffered the least of any. I have been experimenting more or less with the seed-balls ever since the rot was first known with us, believing they must be renewed from the ball. I never have grown any I considered worthy of cultivation but those I send you. The specimens are from medium to large; some of the largest are 10 inches in length. If they should prove good on all kinds of soil, they must be a valuable addition to our varieties. SCHUYLER WORDEN.

Minetto, N. Y., Nov. 13.

Exports of American Agriculture.—The tables which we publish from time to time of agricultural exports from the port of New York, do not cover the whole ground, although comprising the principal part of our farm productions sent abroad. The official tables, including values as well as quantities, are always a twelvemonth or more behind, and, indeed, have only just appeared for the year ending June 30, 1864. For that year, the total value of our agricultural exports was $150,457,784, against $180,681,526 for the year ending June 30, 1863, and $138,171,984 for that ending June 30, 1862. That the relative importance of our agriculture to other pursuits, in sustaining our foreign commerce, may be shown, we may state that of our total exports for the year ending June 1, 1864, there were, in money values—

Animal products of the Farm,	$51,118,647	
Vegetable food	64,560.664	
Cotton, tobacco, hops, seeds, &c.	34.778,473	
Total produce of AGRICULTURE		$150,457,784
Total Manufactures of all kinds		37,416,271
Total product of the Sea and Forest		14,649,016
Petroleum, coal and sundries		17,024.636
Gold and Silver, in coin and bullion		100,473,562

Of our Agricultural exports for the year referred to, the heaviest items in round numbers were 57 millions dollars worth of wheat and wheat flour; 30 millions dollars worth of pork, hams, bacon and lard; 23 millions in tobacco, 10 millions in cotton, 6 millions in butter, 5½ in cheese, 6 in tallow, and 3⅛ in Indian corn. The tables for the succeeding year, ending June 30, 1865, will probably show a reduction in several of these important items.

Countermanded.—The herdsman of Hon. EZRA CORNELL, who lately went to England with the bull 3d Lord Oxford, purchased by C. W. HARVEY, Esq., of Liverpool, was to procure several valuable short horn heifers, if successful in finding for sale such as would really be an acquisition for Mr. Cornell's herd. But we learn that Mr. C. has now countermanded the order, fearing, in the present diffusion of the cattle plague throughout Great Britian, that any importation, however carefully selected, might possibly prove instrumental in introducing that disease here. This is only the exercise of a wise precaution, and we should be glad to have all importations of live stock prohibited by the Government, until danger has entirely disappeared.

Product of another Alderney Cow.—I noticed in your issue of Oct. 19, an account of the weight of milk given by an Alderney cow in one month, and the writer asks how it compares with others of the same breed.

I have an Alderney, which I imported when a calf of four months old, seven years since; and although I am unable to give the weight of milk for any single month, yet I can give the exact result of milk and butter for one year, from March 1, 1864, to March 1, 1865.

The cow came in on the 3d of March, and raised the calf until five weeks old. Churned during the year, 351 lbs. butter, and used for family purposes 525 quarts of milk

There was no effort made for an extra result. During the pasture season she had grass only, and when in stall plenty of hay and wheat bran, and good care.

New-Rochelle, Nov. 2, 1865. P. E. LE FEVRE.

Devon Sales.—Capt. JOS. HILTON, New-Scotland, Albany Co., has lately sold the bull-calf "Otsego" and heifer "Red Rose" to Mr. Jas. M. Rockwell, Butternuts, Otsego Co., and the yearling bull "Captain" to Francis Miller, Central Bridge, Schoharie Co.

Inquiries and Answers.

Raising Root Crops.—In your paper please give me a short account of the difference in the expense of raising turnips, beets and carrots for dairy use, and which is best adapted for that purpose? J. V. R. *Seneca Falls, N. Y.* [The cost of raising these three crops scarcely differs in each case. Much depends on the condition of the soil and its freedom from the seeds of weeds. Land which has been kept clean, or which has been repeatedly plowed or harrowed, so as to destroy foul stuff, will yield a crop at far less expense than one which requires constant hoeing or hand-weeding to remove intruders. No weed should ever be allowed to reach more than an inch in height. Unskillful farmers, who allow weeds to grow six inches or a foot, fail in these crops and pronounce them a humbug. Ruta bagas usually succeed best on light or medium loams, and beets on strong or heavy soils. Carrots require a deep, loose soil, and for all the three it should be highly enriched or fertile. Ruta bagas are less sensitive to frost, and are hence more easily kept in winter. They are excellent for feeding store and fattening animals, but impart an unpleasant taste to milk and butter when given to milch cows. Beets and carrots are more suitable than the latter. The carrot seems to be the most nutritive and valuable of the three, and is excellent for feeding horses and dairy animals. Farmers should give more attention to the cultivation of root crops on an extensive scale; and will do so when they understand how easily they are raised after the ground has been thoroughly cleaned of the seeds of weeds, and when they have provided spacious and convenient cellars for storing them. Unless these two indispensable provisions are attended to, it is hardly worth while to begin their cultivation.]

Curing Poison of Ivy.—Cannot you or some of your numerous correspondents or readers, render myself and others a benefit by publishing in the Co. Gent. a course of treatment, which is known to be satisfactory, in cases of poisoning by swamp sumac or poison ivy? Four of my hands and self have alternately been sufferers while clearing off a small piece of low land. We find lead water and a solution of copperas relieving, but only for a time, and not at all proof against its spreading, and continuing to annoy us for several days. I think there must be a remedy that will relieve immediate pain, and arrest further spreading of the affection. S. L. A. *Cinnaminson, N. J.* [We know of no efficient and perfect remedy for this kind of poisoning. Will some of our readers give us a good one? We may remark that there is a great difference in the effects of this poison on different individuals, and a good remedy for one may be insufficient for another. Many persons are poisoned by the slightest touch, while others can handle it freely, with perfect impunity. Kalm, the celebrated Swedish botanist, could bear the juice of the poison sumac (Rhus toxicodendron) squirted into his eyes without inconvenience; while his sister was affected and poisoned when she came within three feet of the plant.]

Keeping Eggs through the Summer.—Will you be kind enough to inform me if eggs laid in the spring can be kept till fall, and what method is best to keep them so as to sell them to the best advantage? A Subscriber. [Eggs may be kept in a cool place for months by placing them on end, either on perforated shelves made for the purpose, the holes being slightly smaller than the eggs, so as to hold them without tipping; or by packing them in salt, chaff, sawdust, &c., in the same position. It was formerly the belief of housekeepers that the *small* end must be down; but later experiments prove that they will keep well on either end.]

Farm Gates.—I am much pleased with that department of your paper headed "Inquiries and Answers." It has been very useful to me, as I generally find my wants shadowed forth by some brother farmer, who wants light on the same or some similar subject. Part of my trouble at this time, is gates. I find it necessary at present to make about twenty, the old ones having become rotten in nine or ten years. Perhaps they were badly constructed. The slats or bars and braces, are hemlock; the head and heel pieces, oak, with braces from heel to head on each side. The bars or slats rotted between the braces, and the gates fell in two parts. This rotting was caused by the braces holding water and keeping the slats moist. What is the best remedy? The gate called Robinson, seems to be good, but I do not understand that hinge part called a collar—its size, or how it is made fast to the gate. I think you explained in a former number of the Register, but some person or persons have gotten some of my numbers, and I cannot refer to them. J. M. *Bullit Co., Ky.* [Former numbers of the Illustrated Annual Register contain several good designs for gates. The collar in the Robinson gate should be made of two inch hard tough plank, and being cut so as to fit the gate, as shown in the figure, is easily secured to its place by bolts or nails. Gates will last much longer if every place where two pieces of wood come in contact, is well soaked after thorough seasoning with hot gas tar. It is especially useful in mortices. If gas tar cannot be had, common paint, or even strong fresh lime wash, will be of great use. A cheap, light, and handsome farm gate may be made of the panels of Haynes' portable fence, figured in a late number of the Co. Gent.]

Horse Powers.—I want to get a two-horse power, for sawing wood and various other purposes, and would be much obliged if some person or persons that know, would state in your columns, the best railroad or sweep power for the purposes mentioned, taking into consideration the ease of team. J. M. *Bullit Co., Ky.* [The Railroad or Endless-chain Horse powers, are the most portable, compact, and best adapted for this purpose. Among those which are well made, and have stood the test of trial, are those of Wheeler, Emery, Westinghouse and Harder.]

Bound Volumes.—W., *New-Brunswick.* We can send you the Country Gentleman in Numbers from Jan. 1 to July 1, 1865, for $1.75. The volumes of The Cultivator we can furnish bound from 1852 to the present time, excepting 1858 and 1862, *bound*, by mail postpaid, at $1.75 each, or by express, freight from Boston at your expense, at $1.50 each.

Warts on Cows' Teats.—In reply to request in No. 15, Co. Gent.: Take fresh butter (unsalted:) add an equal amount of sharp vinegar; simmer together, and apply with a brush or the hand. It will kill them so effectually that they will drop off in a few days. I have tried the above to my satisfaction. Warts on cattle, however large, may be removed by this process without any injury. Iowa.

Pickling Onions.—Noticing an inquiry in the Co. Gent. of Oct. 26. for a recipe for pickling onions, I give the following rule: Peel the onions, and soak 48 hours in salt and water, and change once in the time. Then place them in a jar—take vinegar enough to cover them—put it in a kettle—add cinnamon and cloves to suit the taste—then let it come to a boiling heat—set it away until cold, and then pour it on to the onions and set away till ready for use. L. C.

Covering Strawberries.—"What is the best material to cover tender strawberries for winter?" inquires a correspondent. Answer—evergreen boughs or cornstalks. Rye straw does pretty well. But other kinds of straw become wet and flattened down under snow, and are apt to smother the plants. The two first named substances are never liable to this difficulty. Well established beds, of known hardy sorts, will need little covering in most places, except a thin coating of coarse manure, which washes into the ground, and enriches the bed. But newly set plants, transplanted late in summer or in autumn, cannot endure winter so well, and should be covered.

Potatoes for Heavy Soils.—Can you or some of your correspondents, tell me what varieties of potatoes will do best and be best on clay soil, and particularly, which of the Goodrich potatoes are best to plant on such soil—reference being had as well to the yield and the quality of the potato when grown, as to the liability to decay? A Subscriber. [Of the Goodrich varieties we have found the three lately introduced sorts, namely, the Early Goodrich, the Gleason, and the Calico, to succeed well on heavy soil, and prove of good quality. None of these have as yet shown a liability to decay; all have been productive, the first named rather the most so. The Garnet Chili has also succeeded well, and been healthy and productive—but hardly equal in quality. The Peach-Blow, Prince Albert, and Buckeye, are well known sorts that have succeeded well on heavy soils.]

Long Island Farming.—Will some practical farmer on the Island, give us an account of it as generally practiced there? How does wheat, corn and oats, and clover do, generally? I don't wish to learn of a general average of 40 bushels of wheat, and 100 of corn, etc., by some "*far better farmer than his neighbors.*" But let some practical man give us his figures. What is the price of average farms, not the best—merely fair farms? Western New-York.

Plaster.—Can you or any of your readers give information as to the best quality of plaster found in the central or western part of this State? From whom can it be ordered? and at what price per ton or barrel? Will any one of your correspondents also give any facts relative to the beneficial results from the use of plaster, and the quantity applied to the acre? A. P. C. [Excellent plaster is procured from several parts in Western New York. The Cayuga plaster, which is quarried extensively at Union Springs, on Cayuga Lake, has a high reputation for excellence. It is ground and furnished in large quantities by R. B. Howland & Co., of that place, but we do not know the present price. It is shipped extensively from there both by the Erie Canal, which connects with the lake, and by railroad. We have tried this plaster and found it to be a valuable manure for clover, particularly on light soils. In one instance it nearly doubled the crop, as compared with unplastered clover alongside. A bushel or a bushel and a half per acre is found to be as efficient as any larger quantity. It should be sown early in spring.]

Grapes for Wine Making.—I desire to commence the cultivation of the grape on a large scale for the purpose of wine making, and will thank you to give me a few plain, practical directions, commencing with the kind of soil best adapted, manner of preparing it, how set out, names of best varieties adapted for my purpose, and such other information as to enable me to start intelligently. A. Cipperly. *Saratoga Co., N. Y.* [We are unable to answer this inquiry in full; some of our vineyard men, we trust, will supply the deficiency. There are few soils that are perfectly adapted to vineyard culture without thorough underdraining. Soils with gravelly bottom usually do well, but a large portion of clay is an advantage. Much manure is a detriment. The vineyard soil on the borders of Crooked Lake is probably as perfect as any that can be found; it is strong and clayey, but has a perfect drainage in consequence of the broken fragments of rock diffused all through it. The Delaware and Diana are among the best wine grapes, and the Catawba has stood pre-eminent; but we should prefer selling the fresh fruit in market. The distance asunder for planting should be at least 12 feet. A greater distance would be better when the vines become older. Our correspondent should procure Phin's and Fuller's treatises, both of which can be had at this office.]

Distance for Pear Trees.—Could you inform me the distance to plant standard pear trees on two acres? W. E. [Pear trees vary in size, with the variety, and with fertility of soil and treatment. The usual distance for planting, however, is about 20 feet; but where land is plenty we should prefer 25 feet, as giving more space for the extension of the roots, and for the admission of light and air to the trees. Where the object is to make the most of the land, they may be placed as near as even 16 or 18 feet, and will not interfere with each other for many years.]

Gleason Potato.—I wish you to give a description of the Gleason potato, particularly the color. H. *Kentucky.* [The Gleason was described by the late C. E. Goodrich, as follows: "Longish, rusty, coppery; leaves and vines, dark green; flowers, white." The skin is rough—the flesh becomes perfectly white when cooked.)

Tan-Bark—Coal Ashes.—Will spent tan-bark—hemlock—if used for bedding cattle, and mixed with the manure, be injurious to the soil and growing crops? Will it rot when plowed in, or will it remain as sound and be as lasting as the national debt? I would also like to know whether coal ashes are beneficial or injurious to land, when mixed with the manure heap. They are a first rate absorbent, if used when dry. Are they worth the labor of drawing one mile, to put on to land? Is there much lime in coal ashes? J. L. R. *Jeff. Co., N. Y.* [Spent tan-bark fresh from the vats, would probably do more harm than good, unless very sparingly applied. After decaying several years it would doubtless be useful to heavy soils as a loosener, and it serves well for mulching. Coal ashes are nearly all earthy matter, but they contain some potash, partly derived from the wood used in kindling, and a small quantity of other fertilizing ingredients. They are doubtless worth drawing a mile. If not allowed to become wet, they are an admirable absorbent for vaults, stables, and cattle-yards. They may be applied quite largely to land without injury.]

Northren Spy Apple.—I see it stated the Northern Spy apple is 10 or 15 years coming into bearing. I set some in orchard this spring, one year from bud, and have some old seedling trees in same orchard. If I cut off the top of the seedlings this spring, and graft them with the Spy, how long before the latter will bear? Will it hurry them up any? A. E. T. *Hannibal, Mo.* [Grafting large trees will usually give fruit from the grafts in less than half the time required from newly transplanted young trees. The Spy is not always so tardy as our correspondent indicates—we have had eight bushels from a young tree the ninth year from setting out, but this was unusual, and the tree was not neglected.]

How to Destroy the Dewberry.—One of your correspondents inquires how to get rid of the Dewberry (briars.) We are troubled with them here. One tells me, to pasture with sheep. I tried it, and my sheep were likely to starve. Another says, tend the ground in corn. I tried that, broke up the ground, took off two crops of corn, a crop of rye, and set in grass; with the grass the briars came up worse than they were before the ground was first broken up; but I find that where I have got my ground improved so as to produce two to three tons of hay to the acre, the briars have disappeared, and I have come to the conclusion that enrich the land and we will get rid of them. M. W. B. *Hancock, Mass.*

Ayrshire Cattle.—A Montreal correspondent writes to inquire as to the demand for cattle of this breed, stating that he has a number imported by himself, which, with their descendants, he is now willing to dispose of at a fair price. So far as we are able to judge, the inquiry for really good Ayrshires was never better than at the present time, and we should risk little in predicting a ready sale for those referred to if properly advertised in our columns, and of such merit as to bear out the character given them. It would probably be better to fix a price in "greenbacks" than to name it in gold, unless, indeed, a purchaser was found for the whole in one lot, so situated as to render it convenient for him to procure and ship the amount agreed upon in specie.

•••

DISPOSING OF GRAIN.

There are doubtless few questions which have been more seriously considered by farmers than, will it pay best to sell their grain or to dispose of it by feeding it to stock? Where a farmer can obtain market price for his grain by feeding it, in the increased value of the stock when sold, or in the improved quantity and quality of milk, it is decidedly the better plan to do so, for not only is he saved the trouble and expense of hauling it away, but the value of the manure produced is much greater, and this is a point that may well be considered, in estimating the return of the grain consumed.

There are many farmers who find it necessary to purchase a certain quantity of patent manure every year, when by feeding their grain this could either be dispensed with or the quantity greatly lessened. But the point to which I would particularly call the attention of farmers is this: Meat of all kinds is unusually high—as high as at any time during the war. This is generally supposed to be owing to the scarcity of stock in the country, caused by the immense number of young animals killed during the war; but whether owing to this cause or the combinations of speculators, it is undoubtedly a fact, nor does there appear any prospect of the price falling.

In view of this fact, would it not be well for farmers to consider the advisability of feeding as much of their grain as possible, especially as corn, &c., has fallen so greatly in value. A miller accustomed to feeding a large number of hogs yearly, informed me that when pork is fourteen dollars a cwt., it will pay to feed corn at a dollar a bushel; but pork is now worth eighteen dollars a hundred, and corn less than a dollar a bushel. Consequently a large margin is left for profit. J. S. *Near Moorestown, N. J.*

CARE OF NEWLY SET TREES.

Many orchards have been set out during the present autumn. Trees set at this season of the year do well, and get an early start in spring, provided the necessary care is taken to protect them during winter. If they are placed on a dry soil, or rather on a soil with a dry bottom, and sheltered from winds, they can be scarcely injured; but where the reverse is the case, special pains should be taken to guard them from harm. One of the most common evils is from the action of the winds upon them, bending or whipping them about, and forming a hole about the foot of the stem, admitting air, drying the roots by exposing them to the air, and often producing the death of the tree. One mode of guarding against this disaster, is to stake the tree, as in fig. 1, where bands of rye straw or bass are best to prevent chafing or cutting the bark, which would result from the use of cords. To prevent injury to the roots in driving the stake, it is safest and best to drive it in the bottom of the hole after or before the tree is placed in it, and before the earth is filled in. Staking should be adopted where the trees are rather large, and when especially the roots have been too much cut with the spade in taking up in the nursery, as is too frequently the case. Where, however, the roots are good, and the tree is of moderate size, banking up around the stem, as shown in fig. 2, answers an excellent purpose. The little mound here represented, not only stiffens the tree against the wind, but covers and protects the roots from freezing. Such a covering, to some extent, is useful even when trees are staked, as already described. If the mound is surmounted with a sod or piece of turf, fitted around the stem, it will assist in keeping the tree to its place, and prevent the mound from washing down by rains. It is essential that the mound itself be made of mellow, compact earth, and not of turf or sods; otherwise it will only serve as a shelter for mice, and do more harm than good. But if compact and smooth, it will serve as a perfect protection from these animals in all cases, as they will never ascend fresh, smooth earth under snow. A case occurred where a planter lost most of his trees by first planting them in sod ground, (a thing which should never be done,) and then turning up inverted turf againt each tree. The mice were perfectly suited by this arrangement, and creeping under the inverted turf, girdled the trees to their entire satisfaction. The owner was convinced that cultivating the ground and embanking, "were humbugs."

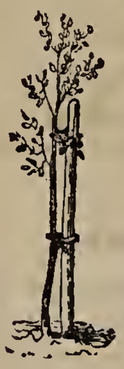

Fig. 1.

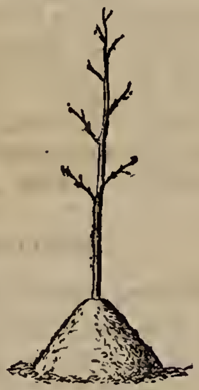

Fig. 2.

Trees should never be transplanted where the soil and subsoil are naturally liable to be water soaked. Soils with a naturally dry bottom are best; and next to these are those that are well underdrained. The underdraining, if not already done, may still be performed between the rows of the trees. It is not too late, even after the trees have attained considerable size, if they have not been already ruined by water and will often greatly improve the orchard; the mode is shown in fig. 3.

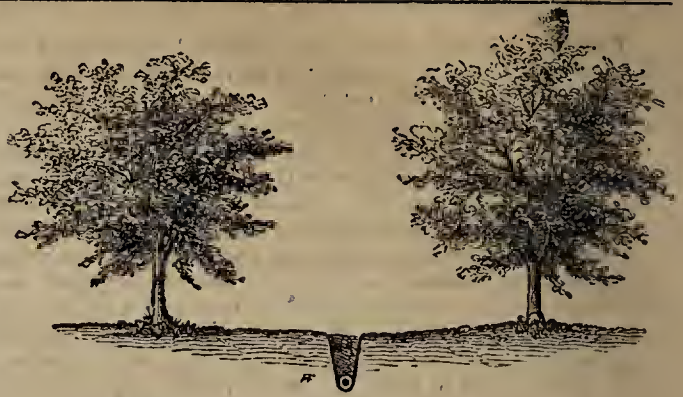

Fig. 3

Young orchards set on good land are sometimes liable to injury from surface water, when heavy rains occur just before freezing up. The only care needed is to provide channels for the ready escape of the water. Heavy soils which hold water in the holes like a tub, must be provided with sufficient drainage from the holes in which the trees are set, or, becoming heavily charged with surface water, the roots may become encased in solid ice, and be badly injured. Furrows plowed from hole to hole, down the slope of the land, as deep as the holes, and filled partly with brush or cornstalks, will allow the water to soak away.

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Keeping Apples in Barrels.—We wish to obtain information from such of our readers as have had experience in relation to the relative merits of keeping apples barreled up tight, with the air excluded, compared with leaving them open and exposed freely to the air. Some have maintained that by heading up the barrels a more uniform temperature is preserved, and that they otherwise keep better by excluding currents of air. Others as confidently assert that confined air and moisture injure the quality of the fruit, and that if it becomes necessary to head them up in barrels, holes should be bored into them. Without entering into any reasoning or theory upon the subject, we would like a statement of the experience of those who have given both modes a full and fair trial.

It is of course obvious to every one, that a cool and rather dry atmosphere will contribtue to long keeping and the preservation of a good condition of the fruit. In testing the two modes, therefore, it is important that these two requisites be observed.

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Market Fairs.—The establishment of these "institutions" has been frequently mooted here, and it seems difficult to understand why they are not undertaken at many of the principal villages and towns throughout the country. They are very successful in Canada West. A Guelph paper, for instance, announces a new one, as follows, at a point which seems to afford no greater advantages for such a gathering than hundreds that might be selected in the principal farming districts of the United States:

> The first Monthly Fair, held in Georgetown on Friday, the 6th, was a great success. Some three or four hundred head of cattle changed hands, besides a large number of sheep, hogs, &c.; also an extensive quantity of grain and farm produce was sold. Several thousand dollars was interchanged during the day, and a large business done by the merchants and business men of the place.

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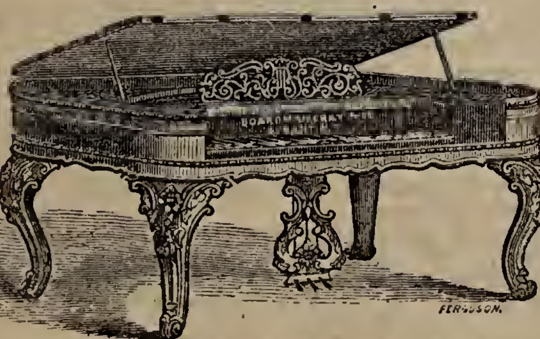

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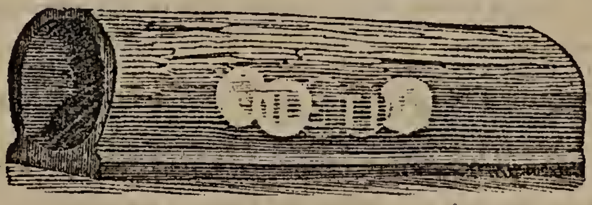

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